

ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA
FOR THE YEAR
1938

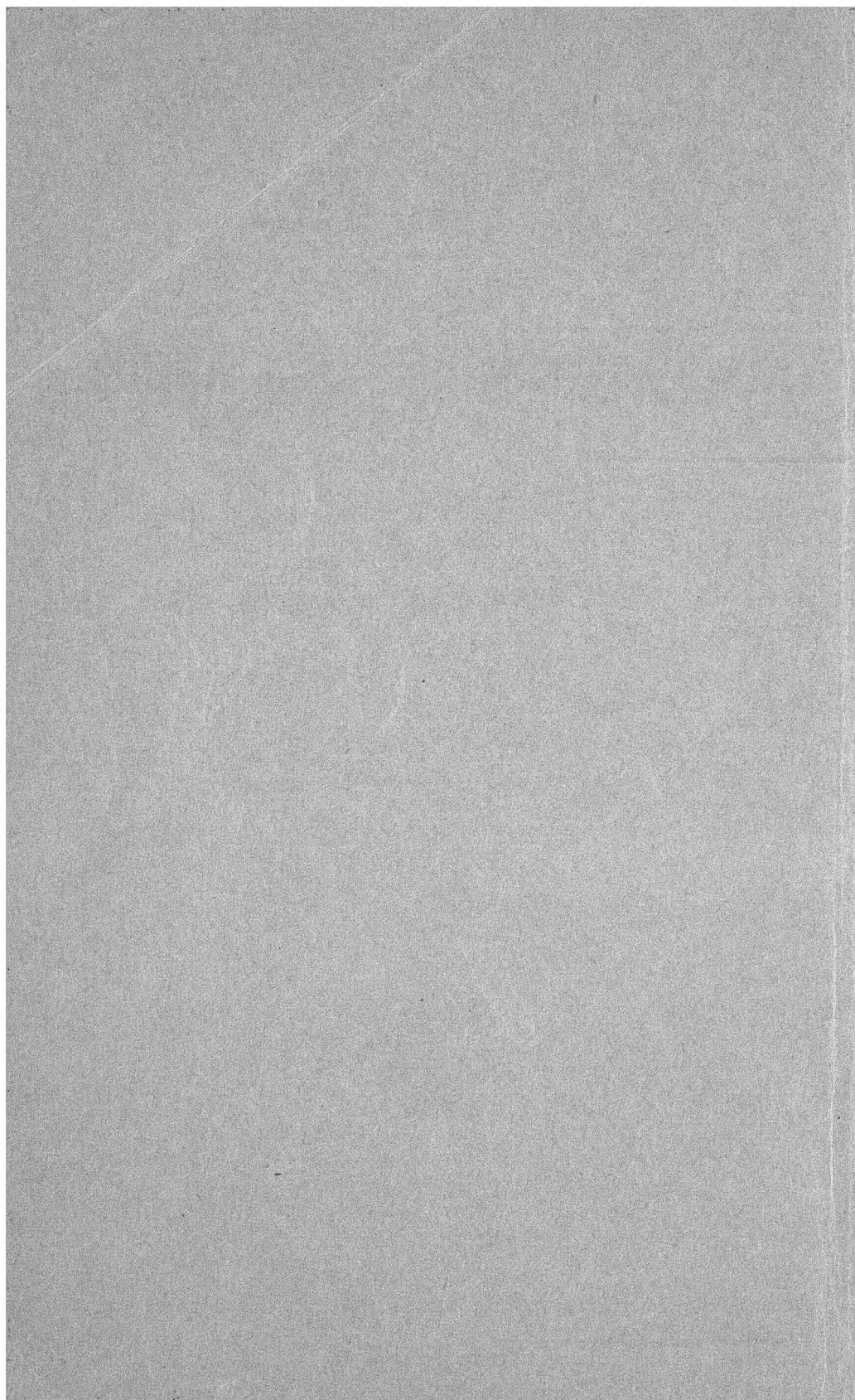
PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY



EDMONTON:
PRINTED BY A. SHNITKA, KING'S PRINTER
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TO HIS HONOUR,
J. C. BOWEN,
Lieutenant Governor of the Province of Alberta.

SIR,—

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1938.

I have the honour to be, Sir,

Your obedient servant,

D. B. MULLEN,
Minister of Agriculture.

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DEPARTMENT OF AGRICULTURE

1938

HON. D. B. MULLEN, *Minister of Agriculture*

Heads of Branches

J. R. Sweeney, Deputy Minister and Superintendent of Schools of Agriculture.

P. W. Johnson, Secretary to the Department.

C. A. Lyndon, Live Stock Supervisor.

P. R. Talbot, V.S., Provincial Veterinarian.

D. H. McCallum, Dairy Commissioner.

O. S. Longman, Field Crops Commissioner.

C. W. Traves, Poultry Commissioner.

W. H. Wallace, Fish and Game Commissioner.

S. O. Hillerud, Provincial Apiarist.

R. M. Putnam, Director, Agricultural Extension Service.

J. Ficht, Supervisor of Agricultural Relief.

W. J. Elliott, Director of Junior Activities.

Jas. Murray, Principal, Olds School of Agriculture.

S. H. Gandier, Principal, Vermilion School of Agriculture.

REPORT OF THE DEPUTY MINISTER

THE HONOURABLE D. B. MULLEN,
Minister of Agriculture.

SIR:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1938.

The year 1938 must be characterized as a favourable one for agriculture in Alberta. Improved moisture conditions at seeding time, and throughout the growing season, were responsible for the production of an excellent crop in almost every section of the Province. The yields in the Peace River district were considerably below the average for that area, and along the eastern border of the Province the lack of rainfall during the growing season resulted in very low yields. The production of wheat amounted to 143,000,000 bushels with an average yield of 17.9 bushels per acre, compared with 75,700,000 bushels and an average yield of 9.7 bushels for 1937.

There was a splendid growth of pasture and hay crops. Ample supplies of fodder are available for winter feeding of stock, and the carrying capacity of range lands has been greatly improved as a result of the favourable growing conditions in the range areas.

A large acreage of crop was damaged or destroyed by hail which swept through the central and southern areas of the Province.

The infestation of grasshoppers covered a slightly wider area than in 1937. Control measures were adopted and poisoned bait distributed along the same lines as in previous years.

There was an increase in the acreage of hay and pasture crops, and supplies of forage crop seeds will be adequate for next year.

The most disappointing feature of the 1938 crop was the collapse in prices. In fact, the Alberta crop, although more than twice as large as was harvested in 1937, will have a total value slightly less than was realized for the previous year's crop.

The action of the Dominion Government in fixing the price of wheat at 80 cents per bushel, Fort William, greatly lessened the effect of the demoralized wheat situation and benefited western wheat producers.

The live stock industry has experienced a good year. The finishing of beef cattle in Alberta has become an important phase of beef cattle marketing. A number of additional feeder associations have been organized, and feeder cattle are being finished in larger numbers in Alberta feed lots.

Lamb feeding continues to show a reasonable profit and, with the lower prices for coarse grains and lower duties on cattle going to the United States, there is every prospect of more finishing of cattle and lambs on Alberta farms.

The number of swine marketed during the year showed a decline. Owing to the high prices for barley during the two previous years, there was a reduction in the number of brood sows kept, resulting in a decrease in swine raising. The fall of 1938 brought low prices for coarse grains, and there was a keen demand

for breeding stock, which would indicate a definite swing toward increased swine production.

The dairy industry made substantial progress during the year. The output of creamery butter reached a new all-time record, amounting to 31,192,368 pounds, an increase of 18 per cent. The cheese production showed an increase of 33 per cent.

A serious decline in the price level of dairy products during the closing months of the year was the only disappointing feature in the dairy situation.

The poultry industry continues to provide a large part of the farm income in Alberta, and there has been a noticeable improvement in the quality of eggs and poultry placed on the market.

Beekeeping is making rapid progress in Alberta. Many new beekeepers are establishing apiaries in Central and Northern Alberta, and a record output of 2,418,158 pounds of honey has found a ready market.

The Fish and Game Branch is becoming one of the largest divisions in the Department. Fur farms are increasing rapidly, and there has been increased activities in commercial fishing.

The Schools of Agriculture continue to be filled to capacity, and there has been a growing interest in Short Courses and Field Days conducted on Provincial farms. The Horticultural Station at Brooks is becoming the centre of horticultural developments in the Province, and great interest is being aroused in the growing of hardy varieties of fruits.

Junior clubs are making rapid progress, and the matter of supplying staff to supervise club activities is becoming a real problem. It is recognized that Junior Club work is perhaps one of the most useful and successful activities conducted by the Department.

During the year an Agricultural Extension Branch was organized in the Department. Mr. R. M. Putnam, B.A., B.Sc., formerly of the Field Crops Branch, was appointed Director, and will be responsible for co-ordinating all the extension activities of the Department and enlarging the means of distributing agricultural information.

Mr. W. J. Elliott, B.S.A., who is responsible for the supervision of the Dominion-Provincial Youth Training projects, also acted as Supervisor of Junior Club activities and Women's Extension work. Owing to the expansion of the Youth Training work and the increased demands for more supervision of Junior clubs, it will be necessary to place some of these activities under the direction of the Extension Branch.

The Live Stock Branch was reorganized during the year, and C. A. Lyndon, B.S.A., was appointed Live Stock Supervisor. The new policies adopted for the improvement of live stock have placed a heavy strain on the Live Stock Branch, and additional assistance will be required to administer the Acts assigned to that Branch.

On the promotion of the writer to this office, Mr. D. H. McCallum, B.S.A., was appointed to the position of Dairy Commissioner, and Mr. L. M. Silcox, B.S.A., was named Cheese Instructor in the Dairy Branch.

Mr. William Roach, B.S.A., was added to the staff of the Poultry Branch.

The heads of the respective branches, District Agriculturists, Principals of Schools of Agriculture, and Farm Managers, have submitted separate reports which are presented herewith.

All of which is respectfully submitted.

J. R. SWEENEY,
Deputy Minister.

REPORT OF THE PROVINCIAL VETERINARIAN

(DR. P. R. TALBOT)

The duties of the Provincial Veterinarian's Branch may be summarized as follows:

1. The prevention and control of diseases of animals that do not come under The Animal Contagious Diseases Act of the Dominion Government.
2. Giving assistance to those living in outlying districts where the services of qualified veterinarians are not available.
3. The supervision of the health of the live stock at all the Provincial Government institutions.
4. Supervision and conducting of experimental work in relation to diseases found peculiar to animals in this Province.
5. The conducting of meetings in relation to diseases of live stock in various parts of the Province.
6. Carrying out of the provisions of The Stallion Enrolment Act.
7. Promotion of the Provincial Co-operative Purchasing Plan for Pure-bred Stallions.

Like the diseases of the human family, the prevention and control of epidemics among animals plays an important part in connection with the live stock industry. During the past few years climatic conditions have necessitated the changing of both horses and cattle from one part of the Province to another. This has a direct tendency to start outbreaks in the different localities to which these animals are sent. In addition, both horses and cattle, during shipping and transportation, are exposed to extremes of temperature, and upon arrival at their destination undergo sudden changes of environment, all of which weakens the vitality of the animals and makes them susceptible to various diseases.

Owing to the scarcity of qualified veterinarians, especially in outlying districts, the residents of said districts naturally look to, and expect this Branch to give assistance in treating and controlling the diseases which occur. To the list of diseases affecting both horses and cattle should be added the ailments of fur-bearing animals. Considerable time was spent during the past year making examinations and assisting in experimental work in an effort to control serious outbreaks of diseases on some of the fur farms in the Province.

Assistance by this Branch is also rendered to the health of the live stock owned at the various Provincial Government institutions, and examination of these herds is made at frequent intervals. This is essential, as the cattle are supplying both meat and milk for human consumption. Close supervision is also necessary in connection with the animals being sold from these institutions for breeding purposes.

Numerous experiments have been conducted under the direction of this Branch in connection with epidemics which have arisen relating to all breeds of live stock, and valuable information has been obtained, with the co-operation of the University of Alberta. Many epidemics have been prevented as a result of the work done.

The demand for meetings, especially in outlying districts, where the services of qualified veterinarians are not available, has been encouraged by this Branch, and an enormous amount of information, which we believe is of great value, has been distributed in this way. The usual procedure, should an epidemic arise in a

certain district, is to endeavour to get the people together and advise them at a public meeting as to the best methods in the use of preventive measures.

HORSES

It would be impossible, in this report, to go into details of all the diseases affecting horses during the past year. Equine anaemia, foot rot and forage poisoning were prevalent in certain areas. In addition, our work in connection with parasitic infestation and its relationship to diseases of horses is being continued. It would appear as if concentrated effort will have to be made in order to eliminate parasites from horses in certain localities if these animals are to be kept in normal health and free from disease.

In addition to the conditions above mentioned, a serious outbreak of encephalomyelitis, or so-called sleeping sickness, occurred, which demanded our undivided attention and taxed the energies of this Branch to the utmost. Although the disease had caused extensive losses in Saskatchewan and Manitoba and various States on the other side of the international boundary for the past three years, it had not made its appearance in epizootic form in Alberta until this summer. When the first case was reported at Provost, followed shortly by other horses showing somewhat similar symptoms in the Oyen and Strathmore districts, almost spontaneously outbreaks occurred in many other sections, and a vigorous campaign was started to control and prevent further losses.

On account of the serious losses which had occurred previously, and were still taking place in other provinces and in the United States, considerable difficulty was experienced in obtaining vaccine in sufficient quantities to meet the demand, but by working through the secretaries of the various municipalities we were able to distribute the vaccine very quickly upon its arrival from New York.

To prevent any misunderstanding and to correct erroneous reports that were brought to the attention of the Government, we wish to state that this vaccine was sold to the secretaries of municipalities, medical men and veterinarians at the cost price to the Government, namely, sixty-five cents per dose. This Branch, through the press, by radio and circular letters to members of the Legislature, secretaries of all organizations interested and veterinarians, as well as horsemen generally, gave information as to the symptoms, treatment and prevention of the disease, and it was felt that through the information given out in this way a considerable loss was prevented.

On account of being unable to meet the demand for vaccine, it was thought advisable, through the co-operation of the Provincial Laboratory, University of Alberta, to manufacture sufficient to at least partially meet the requirements. This necessitated the obtaining of the brain tissue of horses which had recently died, and an organization was built up for this purpose. This material was forwarded in quantities from almost every part of the Province where this disease had occurred, and the men who collected the said material will appreciate the laborious task involved to meet the insistent demand for more vaccine. Horses were purchased in the vicinity of Edmonton and an experimental station was established. With the assistance of Dr. Shaw, of the University Laboratory, more material was secured for use in the preparation of an immunizing agent.

We have satisfaction in reporting that a complete record was kept of all vaccine distributed through this Branch. Questionnaires sent to and returned by secretaries of municipalities and veterinarians show that equally good results were obtained in the use of the vaccine made at the University Laboratory as that purchased in the United States.

We also believe that attention should be drawn to the fact that many farmers in the Province, during the recent epidemic, were the victims of unqualified persons who travelled over the country advocating various vaccines as a preventive and concoctions as a treatment that had little or no beneficial effect. In fact, some of the preparations used were detrimental to the health of the animals.

During the epidemic, 23,240 doses of equine encephalomyelitis vaccine (chick), obtained from New York, were sent out by this Branch, and 17,931 of that prepared by the University Laboratory, making a total of 41,171 doses. In addition, 100 bottles of Botulinus Antitoxin were used by a number of the veterinarians as a means of treatment and prevention.

The following is a copy of the questionnaire sent to veterinarians and secretaries of municipalities, and a summary of the replies:

QUESTIONNAIRE (Veterinarians)

So-called Encephalomyelitis, or Sleeping Sickness

1. Give the approximate number of horses in the territory in which you practiced during the past epidemic.
2. Give the approximate number of horses which were affected in above territory.
3. Give the approximate number that died.
4. In your opinion, did all the cases that came under your observation show definite symptoms of encephalomyelitis, or was there evidence of some other disease?
5. How many horses did you vaccinate with encephalomyelitis vaccine?
6. What percentage of horses contracted the disease following two inoculations with Lederle's "Chick" vaccine?
7. In the case where the vaccine prepared by the University was used, what percentage of the horses contracted the disease after inoculations?
8. How many horses in your territory, if any, were treated with the following or any other immunizing agent?
 - (a) Hemorrhagic Septicaemia Bacterin—Results obtained.
 - (b) Equine Influenza Serum—Results obtained.
 - (c) Equine Encephalomyelitis Serum—Results obtained.
 - (d) Botulinus Antitoxin—Results obtained.
9. In which localities in the districts in which you practice was the disease most prevalent?
10. If horses developed encephalomyelitis following vaccination, what was the approximate interval between vaccination and development of symptoms?

Remarks: Summary of reports received from veterinarians in respect to encephalomyelitis or sleeping sickness:

Total number of horses in affected areas	198,825
Number of horses reported affected by encephalomyelitis	21,394
Percentage of horses affected by encephalomyelitis	10.76%
Mortality in affected areas	3,637
Percentage of mortality in affected areas	1.83%
Percentage of affected horses died	17.00%
Horses reported vaccinated with encephalomyelitis vaccine	13,169
Percentage of horses in affected areas vaccinated with encephalomyelitis vaccine	6.62%
Horses reported vaccinated with other vaccines	4,441
Percentage of horses in affected areas vaccinated with other vaccines	2.23%

QUESTIONNAIRE SENT TO SECRETARIES OF MUNICIPALITIES

- Give the approximate number of horses in your Municipal District.
 Can you give the approximate number affected?
 Can you give the approximate number that died?
 Can you give us the number of horses which were vaccinated with encephalomyelitis vaccine?

Can you give us the number which were vaccinated with vaccine other than the above?

Did the vaccination with encephalomyelitis vaccine, when used, appear to produce immunity?

Were there men, other than qualified veterinarians, vaccinating horses in your Municipality with vaccine secured through other sources than at your office?

Summary of reports received from Municipal Secretaries in respect to encephalomyelitis, or sleeping sickness:

Total number of horses in affected areas	242,450
Number of horses reported affected by encephalomyelitis	19,988
Percentage of horses affected by encephalomyelitis	8.24%
Mortality in affected areas	5,076
Percentage of mortality in affected areas	2.09%
Percentage of affected horses died	25.39%
Horses reported vaccinated with encephalomyelitis vaccine	21,042
Percentage of horses in affected areas vaccinated with encephalomyelitis vaccine	8.70%
Horses reported vaccinated with other vaccines	24,394
Percentage of horses in affected areas vaccinated with other vaccines	10.06%

It will be noted that there is some variation in the figures given in the two statements in the case of percentages of mortality. We believe the figures given by the veterinarians more correct, for in some districts at least there is reason to suppose the death from navel disease in colts and other causes were unknowingly added in the secretaries' reports. On the other hand, the number of horses treated with an immunizing agent other than encephalomyelitis vaccine, as given by the secretaries of municipalities, is more accurate than that given by the veterinarians.

CATTLE

Numerous outbreaks of hemorrhagic septicemia in cattle were reported and investigated during the past year. On account of the variation in the forms, the susceptibility of the animal and the virulency of the organisms causing the disease, much confusion among the cattle owners has occurred, although the greatest number of deaths took place on farms where cattle had recently been purchased at the stockyards. On the other hand, losses took place where the animals had been retained on the owners' premises over a long period of time, and no new animals had been added to the herd. No apparent reason could be given for a sporadic outbreak.

The unusual climatic conditions that existed in certain parts of Alberta during the past year may be one explanation for this disease being so prevalent in these various sections. There is a possibility that stagnant ponds and meadows that have been wet for years, but have now become completely dry, may be a contributing factor in stimulating this organism to increased virulency. The disease is successfully combatted by the administration of properly prepared bacterins, and if exposed animals are immediately vaccinated the mortality can be greatly reduced.

Considerable loss occurred during 1938 from weed poisoning. Water hemlock continues to cause serious losses in cattle, especially in the northern parts of the Province, although most of these cases are reported in the early spring, due to the fact that the first green shoots appear at this time when cattle are naturally attracted to succulent forage; we are still asked to investigate losses occurring during late summer and fall. This may be explained for the reason that cattle are often placed in new pastures at this season of the year, and they are not familiar with the different plants to which they have been accustomed. No cases of larkspur poisoning in cattle were brought to our attention during the year, although this

plant has caused serious losses in the foothill country and in some northern sections. The wide distribution of the bulletin, "Weeds Poisonous to Live Stock" has, in our opinion, been of great value in preventing enormous losses from this source.

SWINE

There is little variation in the losses occurring in swine over previous years. At the request of the Provincial Swine Breeders' Association, a resolution was adopted and forwarded to the Western Canada Live Stock Breeders' Association, asking that this organization approach the Dominion Department of Agriculture and the National Research Council to consider the investigation of the losses in swine throughout the western provinces. Following this request, Dr. G. H. Barton, Deputy Minister of Agriculture, Ottawa, named a committee consisting of Dr. J. C. Hargrave, Medicine Hat, a representative of the Federal Department of Agriculture; Dr. P. R. Talbot, Provincial Veterinarian for the Department of Agriculture, Edmonton, and Professor J. P. Sackville, University of Alberta, as chairman, to undertake an initial survey of the situation as it existed in this Province. A copy of their report was forwarded to the Deputy Minister at Ottawa and to the Honourable Mr. D. B. Mullen, Minister of Agriculture, Edmonton.

The result of the findings of this committee indicated that a high percentage of the losses were traced directly to lack of proper feeding and managements methods. This report also indicated that internal parasites were taking a heavy toll. There was considerable evidence that certain specific infectious diseases were prevalent in some districts. It is anticipated that material will be gathered from the findings of the committee which will be of assistance to those interested in the swine industry of the Province.

DISEASES OF FUR-BEARING ANIMALS

The importance of the fur-bearing industry, especially the breeding of fox and mink, is fully recognized by this Branch.

There are many difficulties confronting the fur breeders in Alberta. Malnutrition, improper feeding, faulty diet, parasites, distemper and encephalitis are only a few of the troubles affecting these animals. Several outbreaks of distemper occurred during the past year, and it was only by the combined efforts of Dr. Shaw, of the University of Alberta Laboratory, Wm. Colpitts, Fur Supervisor, and this Branch that these outbreaks were kept under control.

From our experience in connection with serious outbreaks with two distinct diseases during the past two years, it would appear as if efforts will have to be directed towards the preparation, at the shortest possible notice, of an immunizing agent that will give a satisfactory protection against the diseases as they arise.

The importance of sanitation cannot be stressed too strongly. Many of the troubles arising on our fur farms are traced directly to the lack of a proper standard of sanitary precautions, and the more quickly the farmer realizes this, the better it will be for those who have money invested in this enterprise.

This Branch made a large number of post-mortem examinations of mink during the past year, and we could not help but feel that the deaths caused by digestive disturbances were excessive. It would appear from our observations that special attention will have

to be given to the proper feeding of this particular class of animal, as apparently when there is any deviation from the known satisfactory ration, intestinal disorders are likely to occur. We mention this particular situation, as it has been brought to our attention many times during the last few months, and the impression seems to be prevalent that mink are not susceptible to digestive disturbances.

STALLION ENROLMENT

There was a continued interest shown in horse breeding during the past year. Prices for horses kept up comparatively well in both stallions and market horses during 1938, and we have every reason to believe that it will continue during the coming year.

Considerable difficulty was experienced during the past year through the using of grade stallions in outlying districts, and many reports were investigated by the Royal Canadian Mounted Police. We appreciate the fact that many new settlers have not sufficient money to purchase pure-bred stallions, but we believe that this difficulty can be overcome through their co-operation in the securing of a stallion under the Group Purchasing Policy, mentioned later in this report. In this way a good quality stallion can be procured with little cost to the individual. It is hoped that this policy will eventually eliminate unsound stallions as well as those of poor quality.

We are of the opinion that the legislation passed at the last session in connection with the amendment to The Stallion Enrolment Act, necessitating the re-inspection of stallions every five years, will help a great deal in improving the class of stallion in the Province. It is gratifying to report that in many instances these horses passed satisfactorily upon re-examination, many of our well known old stallions came under this class. On the other hand, some were found that had developed unsoundness, which made it necessary to cancel their enrolment certificates. This second examination is having the effect of making it necessary to replace these condemned horses with younger, sounder animals of better quality. It therefore is assisting the breeders in the Province in stimulating a demand for pure-bred animals.

The number of stallions enrolled during the past year, arranged according to breeds, is as follows:

Percherons	428	Standard	10
Clydesdales	252	American Saddle	6
Belgians	136	Jack	1
Shire	16		
Thoroughbred	14	Total	875
Suffolk	12		

This shows a substantial increase over the previous year, being the largest figure since 1922.

GROUP PURCHASING POLICY

The work of organizing the various groups which purchased stallions under this policy was handled most capably by Mr. Chester Reynolds. When one realizes the work involved in holding meetings, taking the men chosen to select those horses to the stallion owner's premises, and then seeing that the stallions are shipped properly to their destination, it will be readily recognized that a lot of care and organization is required.

It also speaks exceedingly well for the handling of the whole plan that of 38 clubs organized in 1938, no serious complaints have

arisen over the selection of horses, nor have any serious disagreements taken place among the members of these groups.

In our opinion, much of the success in connection with over one hundreds groups organized so far, is the result of the continuous close contact that has been made with the members, and especially with the secretaries of the different groups during the past two years.

The holding of colt shows in connection with the clubs organized under the co-operative plan was badly disorganized in 1938 on account of the outbreak of equine encephalomyelitis, or sleeping sickness, and it was considered inadvisable to gather mares and foals in numbers at central points on account of the danger of possible infection. Late in the season when this danger had lessened, three successful shows were held.

This Branch wishes to express its appreciation of the co-operation given by the different horse breeders, also their kindness in donating the cups for the best foal sired by a stallion purchased under the above mentioned policy.

REPORT OF THE FIELD CROPS COMMISSIONER

(O. S. LONGMAN)

The 1938 field crop production was a decided improvement over the previous five years. With the exception of the Peace River area and a section along the eastern border of the Province, there was fair to ample rainfall, which resulted in the very satisfactory yield of all the cereal and forage crops.

As a result of increased production, not only in Canada but in other wheat producing countries of the world, the 1938 wheat price was a disappointment, and in order to avoid total demoralization of the grain industry in Western Canada the Dominion Government established a fixed price of 80 cents per bushel, basis No. 1 Northern, Fort William. A large acreage of promising crops were destroyed or damaged by hail; the districts most seriously affected being the south-central section of the Province.

The acreage devoted to hay and pasture crops continues to increase. There is evidence of a decided increase in the 1939 acreage of alfalfa, clovers and grass crops. A fairly satisfactory price has been realized for alfalfa and clover seed. The increased production of grass seed, particularly crested wheat grass, has had a depressing effect upon the price. However, prices still obtainable make the returns from these crops quite satisfactory.

The following table shows the estimate of field crops in Alberta in the years 1937-38:

Crop	Area 1937	Yield Per Acre (Bus.)	Total Production (Bus.)	Area 1938	Yield Per Acre (Bus.)	Total Production (Bus.)
Spring Wheat	7,834,000	9.7	75,700,000	7,969,000	17.9	143,000,000
Oats	2,789,000	27.6	77,000,000	2,885,000	35.0	101,000,000
Barley	995,300	22.2	22,100,000	1,125,000	26.0	29,200,000
Fall Rye	80,000	8.5	681,000	99,000	17.4	1,725,000
Spring Rye	75,000	6.7	504,000	59,000	16.5	975,000
All Rye	155,000	7.6	1,185,000	158,000	17.1	2,700,000
Peas	700	20.3	14,000	800	27.5	22,000
Beans	900	19.0	17,000	700	16.7	12,000
Mixed Grains	18,000	17.3	311,000	19,100	25.1	480,000
Flaxseed	20,000	6.2	124,000	31,000	8.1	250,000
		(Cwt.)	(Cwt.)		(Cwt.)	(Cwt.)
Potatoes	31,000	90.0	2,790,000	28,200	74.0	2,087,000
Turnips, etc.	2,700	116.0	313,000	2,700	107.0	289,000
		(Tons)	(Tons)		(Tons)	(Tons)
Sugar Beets	20,200	11.53	233,000	19,700	12.74	251,000
Grain Hay	1,100,000	1.50	1,650,000	900,000	1.75	1,575,000
Hay and Clover	356,500	1.23	438,000	365,000	1.49	545,000
Alfalfa	83,000	1.88	156,000	85,600	2.30	197,000
Fodder Corn	2,700	5.55	15,000	3,100	5.00	16,000

CLOVER, ALFALFA AND GRASS SEED, 1937-38

	1937 lbs.	1938 lbs.
Red Clover	15,000	75,000
Alsike	...	80,000
Alfalfa	200,000	315,000
Sweet Clover	459,000	1,300,000
Timothy	420,000	850,000
Crested Wheat Grass	200,000	370,000
Brome Grass	400,000	1,500,000
Creeping Red Fescue	6,000	10,740

WEED CONTROL

Twenty-two weed inspectors were appointed this year to enforce The Noxious Weed Act in unorganized territory. In addition, six field supervisors were employed, whose duty was to see that the work of all municipal inspectors was conducted uniformly under

the above Act, and they also assisted the improvement district men whenever necessary.

The loss in the Province due to weeds is increasing. All municipal councils were circularized to the effect that Section 6 of The Noxious Weed Act would be enforced. This section stipulates that every municipality shall appoint inspectors for proper administration of the Act. Most municipalities appointed inspectors. Where experienced men were employed, satisfactory results for the most part were obtained. The lack of funds for weed control purposes in both organized and unorganized districts greatly limited the time actually devoted to inspection work. Only two local improvement districts north of township 27 had funds available for weed control activities. This deficiency had to be met by means of a Special Warrant. Numerous complaints are received from municipalities with respect to the lack of supervision and control work in adjoining local improvement districts. In addition to the above complaint, numerous complaints are being received with respect to the lack of control work conducted on public lands. Much of the Crown lands is badly infested with perennial sow thistle and other noxious weeds, and as The Noxious Weeds Act applies only to private lands, little or no control measures are exercised with respect to public lands; thus they become a menace to adjoining properties. This is an inconsistency which requires an adjustment.

Further intensive effort was made to control hoary cress, leafy spruce and Russian knapweed. New methods in cultural practices were employed with very favourable results, and in addition 5,264 pounds of Sodium Chlorate and 3,150 pounds of Atlacide were distributed to farmers and municipalities for spraying on these weeds, more particularly on infestations where cultural methods could not be used. All orders for chemical weed killers were approved by the supervisors or weed inspectors in improvement districts. Forty-eight municipalities and unorganized districts obtained shipments of chemicals.

A field day was held during the summer at Calgary, to which was invited municipal councillors, weed inspectors and improvement district men. This meeting was very successful in establishing uniformity in general administration of The Noxious Weeds Act, and many weed problems were discussed.

The following summary shows activities with respect to weed control:

Number of Field Supervisors	6
Number of Improvement District Weed Inspectors	22
Number of Municipal Weed Inspectors Appointed	368
Number of Improvement Districts Supervised	93
Number of Municipal Districts Supervised	145

INSECT PEST CONTROL

The grasshopper infestation extended over a wider area than in 1937, but the intensity of the infestation was noticeably less. The area infested was slightly larger than in 1937, but climatic conditions were favourable to control measures. The late spring retarded hatching, but when warm and favourable hatching weather prevailed the hoppers hatched with great rapidity, causing a very heavy demand for bait material.

The control campaign was conducted along similar lines to those followed in previous years. Seven fieldmen supervised the operation of mixing plants and distribution stations in municipalities and improvement districts. Very keen interest and satisfactory co-

operation was received from municipalities and farmers. On occasions difficulty was experienced in providing sufficient sawdust for bait. For the first time in the history of our grasshopper campaigns all supplies of sawdust on railway points were exhausted. It was necessary to have quantities trucked for considerable distances to load on cars before shipment could be made, thereby adding to the cost of the bait.

Farmers made very extensive use of mechanical spreaders, and no doubt they contributed largely to the success of the campaign, particularly as the threatened destruction of the crop occurred very suddenly and over a very wide area of the Province. The use of mechanical spreaders has introduced a new factor into the grasshopper control programme which may modify the method of administration. The mechanical spreader will make a much more even distribution and, where the infestation is uniform, a much more economical use of bait; but there is the possibility that bait may be applied on lands upon which no infestation exists. The advantage of hand spreading is that the bait can be applied where infestation occurs, providing sufficient help is available to cover the area.

Stations began to operate about May 20th, and were practically all closed on or about August 15th. The general rains during the summer in infested areas aided in the control, and retarded the destruction caused by the pest.

The following is a summary of the campaign for the years 1937 and 1938:

	1937	1938
Acres of land in area	26,000,000	27,000,000
Acres of crop land menaced	2,872,000	5,255,642
Number of stations in operation	124	140
Amount of poison bait spread	28,574,000 lbs.	28,763,457 lbs.
Number of farmers receiving bait	10,172	10,613
Estimated damage	7.4%	3%
Estimated crop saved	32.3%	19%
Bait used:		
Sawdust	11,517,000 lbs.	15,101,560 lbs.
Bran	2,500,000 lbs.	2,675,306 lbs.
Sodium Arsenite	42,790 gals.	24,730 gals.
Sodium Fluosilicate	76,910 lbs.	235,340 lbs.

As time passes it has become more and more evident that systematic methods of control will have to be adopted if damage due to grasshoppers is to be reduced. Much of the infestation occurs on range lands, and it would appear advisable that a policy be inaugurated whereby ranchers and farmers in the extreme drouth areas distribute bait annually where infestation exists, thus keeping the damage to a minimum.

Statistics show that a wide variation in the costs of preparing and distributing bait exists. Larger mixing stations can mix the bait at a much lower cost than is the case in municipalities. The quantity of bait manufactured has a very definite bearing on the cost. The variation in the cost of manufacturing bait, not including freight or materials, varied from \$1.64 to \$6.75 per ton, at an average cost of \$1.82 per ton.

Numerous requests were received to arrange for the distribution of bait by means of aeroplanes. Upon examination of this method, it was found that it is not a feasible method of distribution.

Demands have also been made for the supplying of oil as one of the ingredients in grasshopper bait. There is little doubt but that the use of oil may make a more efficient bait, but its high cost makes it a prohibitive method of preparation.

Wheat Stem Sawfly damage extended from the eastern border of the Province and damaged the wheat crop over a wide area, extending into the central section of the Province. The losses on lands cropped by strip farming methods have been reported as most serious.

Pale Western Cutworm. — Extreme damage throughout the prairie section of the Province was reported as a result of the infestation of Pale Western cutworm. The control of this pest is a baffling problem. Extensive investigational work has been under way by Dominion authorities, and various experimental methods of control are being undertaken.

Says' Bug.—A rather extensive and somewhat alarming distribution of Says' Bug has been reported in the southern section of the Province. This pest attacks the wheat kernel when in the milk and dough stage, and where infestation is severe a serious reduction of crop yield may occur. Investigations reveal that trash covers on plowless fallows tend to encourage the development of this pest. This is a new problem in Alberta, and its development must be followed with some concern.

Psyllid Infestation.—These insects are particularly destructive to potato and tomato crops. Up to the present time it was considered that the main source of infestation arose from greenhouses, and it has been doubted if it was possible for this insect to survive Alberta winters. During the past year, however, a very wide distribution of the pest was found far removed from greenhouse areas. This development has created some uncertainty as to the life habits of the pest under Alberta climatic conditions. A wide distribution of this pest might cause extensive damage to potato and tomato crops.

Potato Diseases.—Disease damage to the potato crop in an extensive measure, due to necrosis, has been reported throughout the Province. This disease consists of a browning of the fleshy part of the potato and reduces its market value, causing a severe loss to the growers. In the southern part of the Province a number of serious outbreaks of bacterial wilt have been discovered by the Inspection Service of the Dominion Department of Agriculture. A widespread distribution of this disease would be a serious loss to the potato industry, and steps are being taken to bring it under control as effectively as possible.

FORAGE CROP POLICY

The Dominion-Provincial Forage Crop Policy continued in 1938, with gratifying results. This policy has proved very popular. At present a total of 45 municipal units, including improvement districts and municipal districts, are operating under this policy. During the past year 25 municipalities participated in the programme. This policy provides for the free distribution of limited quantities of forage crop seed, whereby distribution will be made to a limited number of municipalities and improvement districts each year. Seed supplied is used for the production of seed, and must be seeded on clean land. The number of farmers in any district receiving such assistance shall not exceed 20%, or a maximum of 80 of the resident farmers. The Provincial and Dominion Governments jointly agree to supply the seed, and the municipality is assessed for one-third of the cost. The municipality collects one-half the cost of the seed from the recipient, and all moneys collected are placed in a trust account to be used to extend

the purchase and distribution of forage crop seed over a period of not less than three years. The municipality agrees to supplement moneys collected by an amount equal to 50% thereof for the purchase and distribution of seed. The quantities of seed to be distributed by a municipality shall not exceed the following quantities per farmer, and each farmer is entitled to one variety only:

Alfalfa	50 lbs.
Alsike Clover	25 "
Altaswede Clover	50 "
Crested Wheat Grass	50 "
Brome	100 "
Sweet Clover	100 "
Timothy	25 "

The distribution of seed in 1937 and 1938 was as follows:

	1937		1938	
	Seed Distributed (Lbs.)	No. Farmers Participating	Seed Distributed (Lbs.)	No. Farmers Participating
Sweet Clover	19,305	321	38,650	412
Alfalfa	20,301	508	37,146	412
Brome	9,279	185	51,679	363
Timothy	6,200	310	10,707	222
Alsike	5,400	270	4,615	193
Crested Wheat	18,787	642	25,828	384
Altaswede	6,153	205	4,942	180
Creeping Red Fescue	270	16	...	...
Totals	85,695	2,457	173,567	2,174

SEED SHOWS

Four district seed shows were held during the winter of 1937-38 at Grande Prairie, Edmonton, Calgary and Lethbridge. The Provincial competition was held in connection with the Lethbridge Fair. The purpose of the district shows is to create local interest in better and improved seed production. The possibility of the seed fair as a medium for the distribution and sale of seed has been somewhat curtailed during recent years, due to the development of other agencies and programmes, such as freight assistance policies, crop testing plan, and the operation of the registered and certified seed growers' organizations, as represented by the Alberta Seed Growers' Association. These organizations and policies have greatly assisted and popularized the distribution of registered and certified seed. The entries with respect to the foregoing shows were as follows:

	1937			1938		
	Open Classes	Junior Classes	Total	Open Classes	Junior Classes	Total
Grande Prairie	61	26	87	61	30	91
Lethbridge	160	32	192	98	21	119
Calgary	72	34	106	34	20	54
Edmonton	104	41	145	53	31	84
Totals	397	133	530	246	102	348

The usual assistance was given in assembling and transporting exhibits to the Royal Winter Fair, Toronto, and the International Hay and Grain Show, Chicago. Transportation was paid, and honoraria were provided for prize-winners at these shows. The following represents the number of entries and winnings at the Toronto and Chicago Shows:

Royal Winter Fair, Toronto:	1937	1938
Number of entries	93	132
Number of prizes won	91	85
Number of Championships	5	4
International Grain and Hay Show, Chicago:		
Number of entries	59	56
Number of prizes won	52	44
Number of Championships	2	2

Championships were won in 1933 at the Royal Winter Fair by Nels Linden of Wetaskiwin in wheat; by W. J. Rigby of Wembley in oats, with Victor Watson of Airdrie winning Reserve Championship; and by Nels Linden in barley. At the Chicago International, Lloyd Rigby of Wembley won the Championship in wheat; and W. Justyn Rigby of Wembley won the Championship in oats.

A new class was introduced at the Chicago International this year in the form of a milling and baking class for wheat. Mr. Howard P. Wright of Airdrie was successful in winning first place in the spring wheat section of this class.

JUNIOR GRAIN CLUBS

There was an increase of 13 clubs and 514 members in the Junior Grain Club movement over 1938. Each club member on joining a club receives seed as follows: Wheat $4\frac{1}{2}$ bushels, oats 8 bushels, or barley 6 bushels. This seed is multiplied under the supervision of Department employees. Members during their second and following years in club work have large quantities of pure seed for sale to neighbours. It is estimated that each year well over half a million bushels of pure to variety seed is grown by grain club members. Owing to many farmers wishing to change over from Garnet to some other variety, there was a great demand for organization of wheat clubs in 1938.

Grain clubs and membership in 1938 were as follows:

	No. of Clubs	No. of members	Members obtaining new seed	Bushels of seed obtained
Wheat	71	1,385	880	3,963½
Oats	15	240	144	1,152
Barley	8	124	70	420
Flax	1	10		
Potatoes	2	23		
Totals	97	1,782	1,094	5,535½

Grain clubs were sponsored again this year by the following organizations: Wheat clubs, Alberta Wheat Pool, Oat clubs, United Grain Growers' Limited, Barley clubs, Canada Malting Company, Flax clubs, Alberta Linseed Oil Company. The support given by these organizations in the matter of paying part of the cost of the seed and in providing prizes and free trips to the member in each club obtaining the highest score for his season's work, has been of great value in maintaining interest in the multiplication of pure seed. Ninety-four club members were awarded free trips to district seed shows at Lethbridge, Calgary and Edmonton.

The Alberta team which represented this Province at the National Grain Judging Competition at Toronto was awarded second place; only one and three-tenths points below the winners. Cliff Tebb and Dick Clayton of the Airdrie Club were the members of this team. In the Junior Wheat Class at the Royal Agricultural Show, Toronto, club members from Alberta took all of the 25 prizes. In the Junior Oat Class, Alberta boys took 10 prizes, including the first 2. They obtained 7 prizes in barley class, the major wins being first and fourth. In early oats the first two prizes went to Alberta. In the open classes, the chief winnings for Juniors is as follows: Lloyd Rigby, Wembley, championship for oats at Toronto; Justyn Rigby, championship for oats at International Grain and Hay Show, Chicago, and his brother Lloyd Rigby was crowned wheat king at the same show. Many other prizes at the Toronto and Chicago shows were awarded to Junior Club members.

SEED EXCHANGE POLICIES

An arrangement has been in effect for some years whereby field inspected seed is cleaned by the grower and shipped to points where sufficient orders are obtained for car lot shipments.

The Dominion Government policy of freight assistance and premiums on field inspected seed assisted greatly in the movement of seed under this programme. A total of 1,164 grain growers, who otherwise would have sown inferior seed, obtained pure to variety stocks. The grain companies operating in the Province arranged for their agents to weigh and record deliveries without charge. In addition, these companies accepted grain in exchange for pure seed at track prices instead of street prices.

Twenty-eight cars were handled as follows: Wheat, 12,153 bushels; oats, 28,935 bushels.

The movement of registered and certified seed sealed in sacks was greater than for some years. A total of 90,898 bushels of cereal seed and 211,098 pounds of grass and clover seed was distributed, and approximately 55,000 bushels were shipped under the Dominion Government freight assistance policy.

DISTRICT SEED CLEANERS

Commencing in 1931, and at various intervals since that date, portable grain cleaners have been placed with associations at Fairview, Grande Prairie, Lacombe, South Edmonton, Sangudo, Vegreville, Camrose, Berwyn, Gage and Innisfail.

The cleaners are supplied under a joint Dominion-Provincial Government policy, the association obtaining the cleaner refunding one-third of the cost of same out of the earnings of the cleaner.

Each association is required to sign a contract with the Department of Agriculture, whereby control of the machines by the Department is held for a period of seven years.

The total cost of such machines is approximately \$1,800, and they consist of a Monitor cleaner, Carter disc, necessary power unit, and are mounted on a steel truck with adequate covering.

ALBERTA SEED GROWERS' ASSOCIATION

All growers of registered and certified seed in the Province are eligible for membership in this association. The distribution of pure to variety seed is arranged through co-operation with the Field Crops Branch. Thirty-one cars of seed were handled in 1938.

Owing to the advisability of improving the quality of grain for export, seed growers play a very important part. Through their own organization the distribution of pure seed is arranged whereby those grain growers requiring it, may be informed of the closest supply to their farms.

During 1938 the officers of this association were: President, H. P. Wright, Airdrie; Vice-President, T. H. Howes, Millet; Directors, A. M. Smith, Wembley; R. Mueller, Ghost Pine Creek; H. G. Houlton, Lethbridge; F. T. Rickett, Edmonton; O. S. Longman, Stewart Lewis, Bon Accord, and Keith Rosenberger, Balzac. E. H. Buckingham, Secretary-Treasurer.

ALBERTA POTATO GROWERS' ASSOCIATION

The Alberta Certified Seed Potato Growers' Association continued in 1938 to co-operate with the Field Crops Branch in promoting the use of certified seed potatoes. Potato diseases

resulted in lower yields and inferior market stocks. Certified seed potatoes are inspected for disease, hence they are more desirable for seed purposes. The growers through their association sold large quantities of seed stocks reasonably free from disease in 1938.

The annual meeting was held at the University of Alberta, Edmonton, on August 8th, 1938.

The officers of this association during 1938 were as follows: President, F. T. Rickett, Edmonton; Vice-President, Chas. Scott, Warburg; Directors, John Ferguson, Conjuring Creek; T. H. Howes, Millet; J. A. Bradley, Lacombe; W. C. Dowdell, Millet; and Chas. Ball, Sedgewick.

SPECIAL AREAS

(O. S. LONGMAN, *Director*)

During 1937 the Department of Agriculture undertook to actively participate in the administration of the Special Areas of this Province under the then existing legislation. This participation took the form of the appointment of a director and field staff, along with two staff members. The director was appointed chairman of the Special Areas Board. However, during 1938, the previous legislation was amended, and the authority transferred from the Special Areas Board to the Minister of Lands and Mines.

The main problem confronting the drouth area, and particularly that section of the drouth area under the administration of the Special Areas Act, is one of rehabilitation of settlers and the proper utilization of land, which is naturally the concern and responsibility of the Department of Agriculture. In order to meet this responsibility, three agricultural fieldmen were appointed, namely, A. J. Charnetski, with headquarters at Medicine Hat; K. H. Walker, with headquarters at Youngstown; and Thos. Kilduff, with headquarters at Consort.

I am attaching hereto reports from Messrs. Walker and Charnetski. I regret that, due to illness, Mr. Kilduff has been unable to submit a report on his district. These reports give a general review of the type of work which is being conducted in the areas. I might state that the services rendered by these fieldmen have received general commendation.

SOUNDING CREEK, SULLIVAN LAKE AND BERRY CREEK SPECIAL AREAS

(K. H. Walker)

The morale of the majority of farmers and ranchers in these areas was low last spring, following a number of dry years, a severe winter with deep snow, and a disastrous March blizzard. Fortunately, all the areas received more rainfall this year than last, with a good growth of grass and forage, except in the south-eastern half of Sounding Creek Area, where the rainfall was only slightly better than last year and considerably below the long-time average. Since the live stock population has been greatly reduced, it would appear that a small food reserve will be established, especially in the Sullivan Lake and Berry Creek areas. The production of a feed reserve is the keystone of rehabilitation for these areas. During the season, throughout the areas, seed of corn, rye and crested wheat grass was distributed. The feed growth was also protected

by poisoning gophers, encouraging water development, and establishing hay and pasture reservations.

Approximately 1,800 lbs. of Gehu and North-western Dent seed corn was distributed to about 300 farmers. In many districts, farmers had apparently never tried to grow field corn, and other farmers who appreciated the value of this crop had been unable to purchase hardy seed. An excellent corn crop was produced from this seed throughout the three areas. There will be no need to supply seed corn again this spring, as there are many small lots of good quality seed for sale.

A few townships north of Scotfield, in the Reist-Spondin district, have never required Government seed or feed assistance, nor any direct relief. This district did not grow wheat to the extent that other districts of the three areas did; but, probably due to their rather sandy soil, considerable rye and brome has always been grown.

Approximately 2,000 bushels of fall rye seed was distributed to assist in providing live stock feed. Most of this was seeded in the Berry Creek Area from Rose Lynn to Steveville; however, two large truck loads of seed were delivered to Sedalia and New Brigden. Approximately 37,775 pounds of crested wheat grass seed was sown on about 6,000 acres of land in the three areas. About one-half of this seed was sown in the Sounding Creek Area, where many more thousand acres will likely be sown by farmers as seed becomes available. This seed was sown under favourable conditions, and should produce fine stands of hay and pasture.

Gophers presented rather a difficult problem on account of their unchecked increase on vacated lands. The control of gophers was one of the chief topics at the spring agricultural meetings. Through the Field Crops Branch, assistance was provided to meet this problem. About 1,000 bushels of oats and sufficient arsenite to poison same was supplied and mixed at about ten points. The Rose Lynn and Garden Plains districts preferred to use strychnine, and assistance was given to them to arrange bulk purchases at a considerable saving. Excellent results were obtained at Oyen, where approximately 200 farmers received poisoned oats for the control of gophers. Very few complaints were received during the summer, and little damage from gophers or any other pests was reported.

Water Development.

Many community projects in the areas were delayed on account of the difficulty in securing Government controlled lands and in obtaining adequate engineering services. Finally, the services of Mr. A. B. Cook were made available by the P.F.R.A., and it is expected that more progress will be made.

In the Sullivan Lake Area 7 projects are proposed for development in 1939, at an estimated cost of \$7,500.

In the Sounding Creek Area 11 projects are proposed for development in 1939, at an estimated cost of \$7,200.

In the Berry Creek Area 4 new projects were completed in 1938, at a cost of \$3,729.10. Six projects are proposed for development in 1939, at an estimated cost of \$3,451, and during the past season repairs and improvements were made to 9 existing projects at a cost of \$3,907.25. In addition to the above, the Bartman Dam, costing approximately \$18,000, was completed by the P.F.R.A. on East Berry Creek. Also, through the Berry Creek Area more than

20 private dams and dugouts were constructed under P.F.R.A. assistance.

During the past three years substantial quantities of water have been impounded as a result of construction of dams on water courses throughout the Special Areas. In order that water thus impounded, which was in excess of that required for stock watering purposes, could be utilized, a pumping unit, consisting of an 8-10 Pulsimeter centrifugal pump and a 15 H.P. Lister Diesel engine, mounted on a truck, was purchased by the Special Areas Board at a cost of approximately \$2,400. The purpose of this equipment was primarily to demonstrate to farmers of the area the possibility and feasibility of utilizing the water for irrigation purposes by means of pumping units. The economy and practicability of this equipment has been fully demonstrated, and has received general approval. The cost of operation for fuel was approximately 20 cents per acre. The equipment is capable of handling from 2.5 to 3.5 second feet of water, depending upon the lift. This delivery will permit, under very ordinary conditions of soil preparation, the irrigation of approximately two acres per hour. Under favourable conditions the efficiency could be proportionately increased.

The Special Areas Board fenced 3,840 acres of hay flats four miles north of Richdale, in order to protect the hay from a large number of stock running at large. These flats provided a valuable source of excellent bluestem hay for the district.

A considerable advance in the improvement of live stock was made during the year. Over 30 farmers in the areas took advantage of the Bull Exchange Policy. Delegates from these areas attended meetings of the Neutral Hills Live Stock Board, and were strong supporters of the improvement policies originating from the Board. They assisted in obtaining about an 80 per cent sign-up requesting that the Sounding Creek Area be made a T.B. free area. Petitions were also circulated in the other two areas, and signatures representing about 50% of the cattle owners were obtained.

Another project of the Special Areas Board, namely, warble fly control, has met with a good response in these areas, and with the organization now under way it would appear that considerable quantities of Derris powder will be used next spring.

Only one stallion club was organized, which was at Cereal. There is considerable need for more of this work throughout the areas.

In co-operation with the Dairy Branch, the establishment of a dairy cow-testing programme was taken under consideration.

A small carload of Canus seed wheat was unloaded at Acadia Valley, and a few hundred bushels of it was trucked to the Sibbald district. This wheat demonstrated its ability to withstand drouth by yielding from 3 to 5 bushels more per acre than Marquis, and it is an excellent combine thresher wheat. Canus wheat was especially well received in the Acadia Valley district, where all of the crop grown from seed distributed by the Special Areas Board was retained in the district, to be seeded next spring.

Soil drifting on public lands in the Cereal and Acadia Valley districts was a source of considerable complaint by farmers in these districts, who feared that the drifting soil would start their land drifting. This problem was met co-operatively, and the lands successfully "tied down." The P.F.R.A., operating out of Leth-

bridge, brought in a tractor and lister and hired locally cultivator drills; and the Provincial Department of Agriculture supplied seed for about 200 acres of the worst drifting public lands in Acadia Valley and 100 acres near Cereal. Seed was also supplied which controlled drifting fields in the Collholme and Sibbald districts. The town of Cereal was especially gratified by this work as, for a number of years, it had been deluged with dust from this field. It does not appear as though soil drifting will be very serious next spring, as there is not much summerfallow and most of the land now has a good growth covering. In the wheat growing areas, where there is considerable summerfallow, strip farming has been generally adopted. In this connection, the Acadia Valley Municipal Council ruled that no relief assistance would be given to farm land that is not laid out in strips.

TILLEY EAST AND BOW WEST SPECIAL AREAS

(A. J. Charnetski)

The office of an agricultural fieldman for the Special Areas Board was opened in the Provincial Court House at Medicine Hat in October, 1937. Immediately upon its opening, services were required by the Dominion-Provincial Marketing Scheme in the supervising of the assembling of cattle at Medicine Hat, Irvine, Manyberries, Orion, Etzikom, Bain, Winnifred, Seven Persons, Grassy Lake, Purple Springs, Howell and Bow Island. The services of this office were called upon in the organizing of two live stock breeding centres in the Lomond district and four similar centres in the Irvine district.

Demands for the supply of pure-bred bulls came in from many other points, but due to their lateness, bulls could not be procured under the Federal policy.

The Provincial Bull Exchange policy was very well received by the stockmen in this district. Two carloads of scrub bulls were shipped out, and these are to be replaced with high quality pure-bred bull calves. The enquiries for the exchange continues to come in to the Medicine Hat office, and no doubt there will be many more taking advantage of the policy next fall. It might be stated in this connection that the demand for Herefords predominated, even in the more thickly populated districts.

There were a number of enquiries regarding the Provincial Stallion Purchasing Plan, but due to the drouth ravages in the past few years nothing concrete was done, although the coming year appears more promising, especially if some financial assistance could be advanced. Considerable interest was created among the farmers when the feasibility of a horse breeding station was mentioned, and many of them expressed their hope that something definite might be done during the coming season.

Considerable time was spent in each of the past two falls in interviewing applicants for youth training, under the Dominion-Provincial Youth Training Plan.

There were two Junior Grain Clubs under the complete supervision of this office—one a Marquis wheat club with 15 members at Hilda, and the other a Canus wheat club with 20 members at Schuler. Members in these clubs showed a great spirit of co-

operation, and the meetings were well attended throughout the year.

The matter of strip farming and the building up of feed reserves was stressed, with the result that the fall rye acreage is very much increased over all previous years. Only a very limited number of farmers required assistance in the purchasing of rye. It might be suggested that steps be taken to build up a reserve of fall rye seed in the drouth areas, so that in the event of extremely severe drouth conditions seed would be available at a reasonable price.

The matter of soil drifting was a very vital one last spring, especially in the Bindloss, Retlaw and Armada districts, and required considerable attention. The P.F.R.A. section at the Lethbridge Experimental Farm did considerable listing in strips. The intervening strips were seeded to wheat to provide cover crop, and some of this produced sufficient growth to be of marketable value. The Provincial Seed Relief Department rendered valuable co-operation in supplying supplementary seed necessary in this connection.

Due to the general optimism regarding the possibility of a bumper crop, the office of the Department of Lands and Mines Fieldman received a large number of crop lease applications for old abandoned farms. Practically all of these were inspected from this office, as to the advisability of re-cultivation.

The matter of soil drifting damages, as affecting neighbouring farmers, was attended to in several cases, with favourable results.

A gopher poisoning campaign was carried out during the early spring, as gophers had greatly increased during the drouth years.

Considerable grass survey and range inspection work was done, both last fall and during this past summer. This work was done by sections, covering an area of over three townships. The reports had a special bearing on the grass cover, water supply, hay sloughs, shelter and general topography. There were a number of other similar reports submitted, covering various areas in the Tilley East and Bow West areas generally.

Regrassing abandoned farms received considerable attention during the past two seasons in the Tilley East Area. About 2,000 pounds of crested wheat grass seed was used in 1937, and over 15,000 pounds in the fall of 1938. Recleaned crested wheat grass screenings were seeded on several hundreds of acres of overgrassed pasture land, to determine the regrassing possibilities of abused pastures. There were 3,200 pounds of crested wheat grass seed shipped to Lomond for Bow West Area, but due to an early snow fall none could be seeded this Fall. However, another supply of over 16,000 pounds is available for seeding during the coming season, this latter quantity to be divided between the two areas.

Considerable time was spent during the month of July in the inspection of hay sloughs and hay meadows in the Tilley East Area. These were inspected for quality of hay, weed growth, flooding from run-offs, and approximate acreage of each slough.

Stock watering dams and dug-outs required attention from early spring until December. The heavy snowstorm in March added a great deal of water to an already large run-off, and endangered a number of dams. Fortunately, due to close co-operation between the office of the Department of Lands and Mines and this office, none of the dams were washed out, although repairs were necessary later in the season. Considerable time was spent with the P.F.R.A.

engineers in checking over the various dams, in order to determine the extent of repairs necessary to make them of a permanent nature. The following dams were affected: Dickson Lake, Rocky Coulee, Suffield, Stair, Big Coulee and Bingville. Also, trench test work was done on the Cavendish Head Tax Lease dam. One new dug-out was located and completed in the Pipe Line district.

There were two new dams located and completed in the Bow West Area, one of which is a combined stock watering dam and a flood irrigation project, with a capacity of 264 acre feet, and capable of flooding 87 acres. It might also be used for irrigation purposes. A large community dug-out was started near Lomond, but unfortunately, on account of heavy snowfall, it will not be completed until next spring.

Survey was made on all likely irrigable river flats between Empress and Jenner. Although nothing definite was done, the information is available and can be used when financial assistance is extended to this type of irrigation projects.

Survey was made of a number of flood irrigation schemes, both for private and community use. The larger community projects are known as the Orser Flat, Cantour Dyking Scheme, comprising several hundred acres of very fertile soil; the Red Deer Lake flood scheme, which covers an area of over 1,500 acres; and the Woods Lake flood irrigation project, covering an area of 227 acres. The construction on the last mentioned project is now completed, and the scheme is termed by engineers as one of the best in the area.

A large number of farmers were encouraged to give more serious thought to flood irrigation gardens, and while results in this regard was not expected to be "astounding," there will be several such gardens in operation.

Community pastures received considerable attention, especially in the Bow West Area. A great deal of time was required to survey the various proposed pastures, but only one was organized. This is known as the Lomond Community Pasture, and comprises approximately one township of land. The demand for these pastures is very keen, and as soon as land ownership, especially marginal lands, is determined there will be several other pastures organized during the coming season.

In conclusion, it might be stated that all construction work in connection with the dams and fencing was supervised by the inspectors in charge of the respective Special Area districts.

REPORT OF THE DAIRY COMMISSIONER

(D. H. McCallum)

A new all-time record in the production of creamery butter and factory cheese, together with an increase in the total value of all dairy products, are the outstanding features of the 1938 report.

Ideal feed conditions existed throughout the Province for the entire year, making it possible to report increases in the production of both creamery butter and factory cheese for every month during 1938. This is the first year that Alberta has manufactured over one million pounds of creamery butter for each month of the year. The total output of creamery butter amounted to 31,242,357 pounds, compared with the previous high record of 26,323,562 pounds established in 1937.

The production of factory cheese amounted to 2,451,821 pounds, as compared with 1,838,589 pounds in 1937 and 1,865,608 pounds for the previous high record established in 1923.

During the first five months of the year prices were considerably higher than for the same period in 1937, but this condition was reversed from June until the end of the year, and a slight decrease in prices is recorded for the whole period. This decrease in prices was more than offset by the large increases in production, and the total value of all dairy products was \$18,587,918, which is an increase of \$1,448,018 over the total value for 1937.

A summary of the production and values of dairy products is presented in the following statement:

QUANTITIES AND VALUES OF DAIRY PRODUCTS (1938—FINAL)

	Pounds	Price	Total Value
Creamery Butter	31,242,357	\$.2291	\$ 7,157,624
Farm Dairy Butter	15,600,000	.1791	2,793,960
Factory Cheese	2,451,821	.1421	348,404
Farm Dairy Cheese	250,000	.1221	30,525
Ice Cream (gallons)	586,338	1,1417	669,418
Milk, Cream and Evaporated, Consumed, fed to animals, or otherwise utilized			7,587,987
Total			\$18,587,918

(1937—FINAL)

	Pounds	Price	Total Value
Creamery Butter	26,323,562	\$.245	\$ 6,449,273
Farm Dairy Butter	15,600,000	.195	3,042,000
Factory Cheese	1,838,589	.146	268,434
Farm Dairy Cheese	225,000	.130	29,250
Ice Cream (gallons)	524,048	1.186	621,564
Milk, Cream and Evaporated, Consumed, fed to animals, or otherwise utilized			6,727,379
Total			\$17,137,900

DAIRY DEVELOPMENT

The northern section of the Province has shown the largest increase in production, indicating that mixed farming and the keeping of cattle for dairy purposes is becoming more popular in this area. There has been a substantial increase in the southern section, but this is largely due to the drouth condition of 1937, which was responsible for very heavy decreases during that year. The irrigated districts with large quantities of feed, which at present has a low market value, are turning their attention to dairying, and substantial increases in production should take place in these areas.

The fact that fewer milch cows were kept on Alberta farms during 1938 and such large increases were recorded in the production, indicates that more attention is being given to the quality of Alberta cows, and as the shortage of feed in 1936 and 1937 necessitated the reduction of animals on the farm, it is natural to assume that many of the low producing cows were eliminated.

CREAMERIES

There were 97 creameries in operation during the year. One new creamery was established at Andrew by the Victoria Co-operative Creamery Association, while Burns & Co., Ltd., reopened the creamery at Radway, which had been closed for a number of years.

The average output of butter per creamery for 1938 was 322,000 pounds, which is an increase of 47,000 pounds over the average for 1937. This increase in volume is bound to result in more economical operation, and it is to be hoped that a still larger average may be reported in the future.

CREAM GRADING

The quality of cream delivered to the creameries shows a slight improvement over the previous year. For the sake of comparison, the figures for 1937 and 1936 are included in the following statement:

AVERAGE TESTS AND GRADES OF CREAM

	1938		1937		1936	
	Pounds	%	Pounds	%	Pounds	%
Cream Received	77,401,690		66,221,560		64,330,141	
Average Test		(34.2)		(34.0)		(33.8)
Butter Fat:						
Table Grade	599,833	(2.3)	575,332	(2.5)	608,093	(2.8)
Special Grade	17,465,388	(65.9)	14,658,133	(65.1)	13,939,307	(64.1)
First Grade	7,529,294	(28.4)	6,514,229	(28.9)	6,461,749	(29.7)
Second Grade	807,334	(3.1)	712,267	(3.2)	688,469	(3.2)
Off Grade	89,336	(.3)	61,070	(.3)	43,087	(.2)
	26,491,185	(100.0)	22,521,031	(100.0)	21,740,705	(100.0)

The Department has endeavoured through a campaign of instruction, inspection and by licensed graders to educate the producers to market only clean flavoured, sweet cream and take advantage of the premiums offered for quality and guaranteed under The Dairymen's Act and Regulations. The above tables indicate clearly that the producers have responded very well and that a tremendous improvement has been noted since 1922 when the Provincial Cream Grading Service was first established. During that year only 32.4% of the cream delivered to creameries could be classified as "Special" compared with 65.9% during 1938.

Inspectors of this Branch have seen that grading and testing Regulations were rigidly enforced. During the year there were 2,180 visits made to plants where 85,267 cans of cream were graded and 30,783 tests made for butterfat determination.

BUTTER GRADING

The grading of butter is a function which was taken over by the Dominion Department of Agriculture in 1927, and the following statement shows the butter grading report for 1938 as compared with previous years since 1934:

**STATEMENT OF CREAMERY BUTTER GRADED (PASTEURIZED)
FEDERAL REPORT (56-pound boxes and samples)**

Year	Total Pounds Graded	First Grade	Second Grade	Third Grade	Below Third Grade
1934	20,787,628	76.3	17.1	6.0	.6
1935	19,081,270	83.0	10.5	6.0	.5
1936	21,584,080	87.4	7.4	4.4	.8
1937	23,553,880	87.0	7.4	4.5	1.1
1938	27,839,952	85.7	7.9	5.4	1.0

One of the chief functions of the Dairy Branch has been to assist and instruct the buttermakers in improving the quality of our butter. Results in recent years have been gratifying, and for the first time since the butter grading has been in the hands of Federal officers has the percentage of first grade, scoring 93 points or higher, reached 60%. This has enabled manufacturers to readily dispose of the surplus butter at the highest going prices, as buyers on outside markets are demanding a large percentage of this high quality butter.

BUTTER COMPETITIONS

As in past years this Branch has encouraged Alberta buttermakers to exhibit at the large Canadian exhibitions, viz., Vancouver, Calgary, Edmonton, Saskatoon, Regina, Brandon, Toronto National, Ottawa, London and the Royal Winter Fair, Toronto. The results from these competitions have been very satisfactory, and Alberta butter was awarded 912 prizes, which represents 47.4% of all prizes at these exhibitions. These competitions are not only valuable in advertising the quality of Alberta butter, but contribute tremendously towards setting the standards and creating greater uniformity in our commercial butter.

DAIRY BRANCH LABORATORY

The laboratory operated by this Branch has again given excellent service to the industry. It has enabled the creameries to keep a close check on the sanitary conditions, and has also been an important factor in improving the keeping qualities and uniformity of our manufactured products. A larger number of creameries took advantage of the service offered by the laboratory, and the average mould and yeast count was the lowest on record. There was an increase of almost 6% of the samples analyzed, which were classified as "Excellent," and a decrease of almost 7% of those samples classified as "Poor."

The following statement, showing the percentage of butter samples in each classification, indicates clearly the improvement which has taken place in the sanitary conditions of Alberta creameries.

PERCENTAGE OF BUTTER SAMPLES IN EACH CLASSIFICATION

Year	Samples	Excellent 0-10	Good 11-50	Fair 51-100	Poor Over 100
1925	686	3.6	12.7	12.1	71.6
1930	2,799	35.7	20.3	10.3	33.7
1935	2,177	55.4	17.9	7.7	19.0
1937	2,529	61.5	16.7	4.2	17.6
1938	2,610	67.2	15.6	6.3	10.9

For the first time the winning creamery in the mould and yeast competition has turned in a perfect score. This indicates what can be accomplished when a definite policy regarding creamery sanitation is adopted and strictly adhered to in everyday work.

The number of water samples received for analyses was nearly twice that of 1937. Samples representing water supplies obtained from deep drilled wells, were in the majority of cases, quite satis-

factory from a bacteriological point of view; whereas a few samples representing a water supply from shallow wells were declared unsatisfactory for butter-washing purposes.

CHEESE

There were 15 cheese factories in operation during the season, and the total output was 2,451,821 pounds, which is the highest on record, and an increase of 33.4% over the 1937 production. A new co-operative cheese factory was established at Coaldale during the year.

During recent years 4 new cheese factories have commenced operation. These have greatly increased the production of cheese, and it would appear that the production of cheese will soon reach consumption figures, making it necessary to export cheese from this Province. With this in mind, the Branch has increased the instructional service to the cheesemakers and is extending the educational service to factory patrons. By supplying a quality product, the highest prices may be obtained, which will result in a higher price to the producer for his milk.

The exhibits of cheese from this Province were successful in winning prizes at all exhibitions receiving entries from Alberta. In the open classes at Calgary, Edmonton and Vancouver exhibitions, Alberta cheese was awarded 87% of the prizes. At the Royal Winter Fair, Toronto, Alberta exhibits were successful in winning prizes in competition with the famous Ontario cheese, which possesses a world wide reputation for quality.

HERD TESTING WORK

The modified Cow Testing Service offered by this Branch gave service to 61 herd owners. During the latter part of the year considerable interest in cow testing has been shown, and it is to be hoped that this work may be extended so as to eliminate many of the unprofitable cows.

INSTRUCTIONAL WORK

A four weeks' Creamery Short Course, conducted jointly by this Branch and the Department of Dairying at the University, was held as in former years. Members of the Dairy Branch staff also assisted the University Dairy Department with a number of lectures and laboratory periods for the regular dairy classes.

Buttermakers' Conferences were conducted early in May (by members of the staff) at Lethbridge, Calgary, Red Deer and Edmonton.

Addresses were prepared and delivered by members of the staff on various phases of dairying at public meetings, as well as over the radio.

BUTTER WEIGHING SERVICE

The issuing of weight certificates on commercial 56-pound boxes of butter has been continued since 1932. The following table shows the number of boxes in shipments and number of boxes check weighed:

Year	No. Boxes in Shipments	No. Boxes Weighed
1932	3,926	404
1933	7,088	857
1934	9,492	1,240
1935	26,634	3,500
1936	16,831	1,906
1937	30,613	3,917
1938	70,477	8,497

SITE OF FIRST CHEESE FACTORY MARKED

The year 1938 marked the fiftieth anniversary of the establishment of the first dairy factory in Alberta.

A stone cairn, erected in the Springbank district, 18 miles west of Calgary, by the Alberta Dairymen's Association and the Department of Agriculture, marks the site of this factory. The cairn was unveiled on October 27th, 1938, and a metal plaque bears the following inscription:

"This plaque marks the site of the first cheese factory, established in Alberta by Ebenezer Healy, on the N.E. 12-25-4-W5, Springbank, 1888. Erected by the Alberta Dairymen's Association and the Department of Agriculture to commemorate the Fiftieth Anniversary of the event."

The production of cheese at the factory was not large, but from this small beginning the industry has grown tremendously, which indicates the vision and foresight of the early pioneer.

LICENSING ADVISORY BOARD

At the last session of the Legislature, The Dairymen's Act was amended to make provision for the appointment of a Licensing Advisory Board, the function of the Board being to examine applications for new creamery and cheese factory licenses, to investigate the need for additional factories and, by careful surveys, to ascertain the justification for plants now operating and to prevent unnecessary duplication of creamery and cheese factory facilities in the Province.

The Board may advise on the propriety of renewing existing licenses, or the cancelling or suspending of licenses, and shall report its recommendations in writing to the Minister.

The Licensing Advisory Board consists of J. R. Sweeney, Deputy Minister of Agriculture, Chairman; D. Morkeberg, Marker-ville, member; F. R. Haythorne, South Edmonton, member.

REVENUES

Revenues from creamery and cheese factory licenses amounted to \$570; graders' and testers' license fees, \$514; and the fees collected from herd testing amounted to \$77; making a total revenue of \$1,161.

STAFF

L. M. Silcox joined the staff on April 20th as Cheese Instructor.

D. H. McCallum joined the staff the beginning of July as Chief Creamery Inspector and Instructor, and was appointed to the office of Dairy Commissioner, October 1st, succeeding J. R. Sweeney, who was called to the higher office of Deputy Minister.

John Keay, Instructor and Inspector, resigned March 26th to accept an appointment with the Dominion Dairy and Cold Storage Branch, Calgary.

The attached tables set forth the details of estimated production for 1938 and statistical information concerning dairying in former years:

**MONTHLY AVERAGE NET PRICES PAID BY CREAMERIES IN ALBERTA PER POUND
OF BUTTER FAT IN "SPECIAL GRADE" CREAM, F.O.B. SHIPPING
POINT, FOR FOUR YEARS**

	1938		1937		1936		1935	
	F.O.B.		F.O.B.		F.O.B.		F.O.B.	
	Cents	%	Cents	%	Cents	%	Cents	%
January	25.7	(3.8)	22.3	(3.8)	21.0	(4.6)	18.3	(4.6)
February	29.5	(3.8)	22.0	(3.8)	20.4	(4.5)	21.3	(5.0)
March	33.5	(4.5)	22.4	(3.8)	18.5	(4.7)	20.5	(5.3)
April	32.5	(6.2)	25.3	(4.4)	18.0	(5.5)	19.5	(5.7)
May	25.1	(9.6)	22.0	(8.1)	17.9	(8.5)	19.7	(7.7)
June	20.6	(15.4)	22.6	(14.5)	17.3	(14.9)	16.5	(15.3)
July	21.4	(15.8)	23.2	(15.4)	19.2	(15.3)	15.5	(16.1)
August	19.2	(13.3)	23.9	(15.3)	20.8	(13.2)	15.5	(14.3)
September	17.2	(9.9)	23.0	(11.8)	22.0	(11.0)	16.3	(10.2)
October	16.5	(8.1)	23.3	(8.6)	23.4	(8.5)	18.9	(6.4)
November	16.5	(5.3)	25.7	(6.1)	21.0	(5.2)	21.0	(4.7)
December	16.5	(4.3)	25.7	(4.4)	21.0	(4.1)	21.5	(4.7)
The Year	22.14	(100.0)	23.34	(100.0)	19.89	(100.0)	18.01	(100.0)

NOTE: The figures inclosed in brackets represent the monthly percentages of the cream receipts for the year.

CREAMERY BUTTER PRODUCTION

Year	Creameries	Pounds Butter	Selling Value	
			Total	Cents per lb.
1920	53	11,821,291	\$6,555,509	(55.45)
1925	99	19,630,101	6,959,059	(35.45)
1930	92	17,716,744	4,968,227	(28.04)
1931	93	22,957,922	4,711,231	(20.52)
1932	95	21,016,048	3,512,685	(16.71)
1933	96	23,852,350	4,308,962	(18.10)
1934	96	25,601,447	4,830,793	(18.80)
1935	97	23,094,707	4,588,917	(19.90)
1936	96	25,491,105	5,501,767	(21.60)
1937	96	26,323,562	6,449,273	(24.50)
1938	97	31,242,357	7,157,624	(22.91)

FACTORY CHEESE PRODUCTION

Year	Factories	Pounds Cheese	Selling Value	
			Total	Cents per lb.
1920	7	398,750	\$ 110,355	(27.70)
1925	14	1,473,835	306,604	(20.80)
1930	8	1,035,352	175,392	(16.94)
1931	10	1,040,588	118,390	(11.38)
1932	12	1,439,715	146,177	(10.15)
1933	11	1,437,387	149,593	(10.40)
1934	11	1,370,425	154,138	(11.20)
1935	11	1,364,526	168,280	(12.33)
1936	12	1,451,735	190,469	(13.00)
1937	14	1,838,589	268,434	(14.60)
1938	15	2,451,821	348,404	(14.21)

TOTAL ANNUAL VALUE OF DAIRY PRODUCTS

1900	\$ 546,476	1932	\$11,850,000
1910	7,855,761	1933	12,950,000
1915	15,896,586	1934	14,391,204
1920	34,000,000	1935	14,252,500
1925	23,002,000	1936	15,505,800
1930	18,675,500	1937	17,137,900
1931	15,750,000	1938	18,587,918

MILCH COWS

Year	Cows	Year	Cows
1901	46,101	1932	424,000
1906	101,235	1933	406,520
1911	147,687	1934	461,700
1916	277,324	1935	464,200
1921	432,838	1936	458,200
1926	436,500	1937	453,600
1931	385,000	1938	440,900

REPORT OF THE LIVE STOCK BRANCH

C. A. LYNDON, *Live Stock Supervisor.*

The year 1938 was marked, as far as the Alberta live stock industry was concerned, by decreased marketings and by only fair prices. The more favourable feed situation over most of the Province during 1938, as compared with the situation during the two previous years, was a measure of considerable relief to stock raisers, and assisted materially in keeping stock-carrying costs at a reasonable level. The abnormally fine Fall, with open weather which lasted until Christmas, enabled producers to carry stock long beyond the period when it would ordinarily go to market, putting an additional finish and weight on the stock at little cost. This open Fall season contributed to a considerable degree in reducing the run of stock to market and, coupled with the unsatisfactory prices in the Fall period, appears to have induced some holding back of breeding stock for herd replenishment.

The Peace River area suffered from an abnormally dry season, and the consequent shortage of feed led to some forced liquidation of farm herds in that area.

Referring to the Live Stock Branch itself, the year was marked by the introduction of new live stock improvement policies, aimed at eliminating undesirable sires from the small herds of the Province. These policies, which will be referred to later in more detail, brought a host of new problems with a consequent heavy increase of work on the staff of the Branch. As the policies develop further, however, and the problems connected with them become more familiar, this matter of more efficient handling of them will, to a considerable extent, adjust itself.

One source of real satisfaction to the Branch has been the splendid and whole-hearted co-operation which the stockmen and others connected with the live stock industry of the Province have given in connection with these new policies. Without that spirit of co-operation it would have been impossible to secure anything like the results that have been recorded in the initial steps of these policies.

CATTLE

As predicted in the 1937 Report of the Live Stock Branch on cattle, the year 1938 opened with a downward trend in cattle receipts at both the Edmonton and Calgary Stockyards, resulting at the end of 1938 a decrease of about 9,809 cattle marketed through Edmonton and 11,273 through Calgary Stockyards. The total mature marketings of cattle in Alberta for 1938 numbered 262,888 compared with 311,000 head in 1937, a decrease of approximately 15%.

There was a sharp decrease of cattle shipped to American markets through the Edmonton and Calgary Stockyards, as the following figures will reveal:

Edmonton—		Calgary—	
1937	20,180	1937	10,537
1938	11,543	1938	6,060

This was due to an unfavourable American outlet, which factor lessened competitive buying at these two points and allowed prices to reach a lower level than could be considered remunerative.

A rather unsatisfactory situation developed in regard to the market for good steers during the early part of 1937, a condition which was no doubt due in large part to the fact that the market was overshadowed by reports that there were large numbers of good steers in the hands of feeders, and it was difficult to find an outlet on the American market. Unfortunately, the boat space necessary to reach the British market was extremely limited, so that while this outlet to market had a considerable influence on the price situation, it was not possible for its full force and effect to show in the net returns to the breeder and feeder.

It is anything but encouraging to note that over 50% of butcher cattle were classified "undesirable" as such, or graded "common," especially when one considers the abundance of cheap feed that is available for finishing butcher cattle. It would seem that there is much work to be done in improving the quality of our cattle and in providing more readily-accessible feeding facilities to encourage finishing for market.

There was likewise a decrease in calves marketed during 1938, this decrease, according to preliminary figures, amounting to 18,318 head. A total of 139,000 calves were marketed in 1937 as compared with 120,682 in 1938, with only about 32% of the total being classified as "good" and "choice." A large number of nondescript, poor quality calves appear to be reaching market, and it would seem that the time has come when farmers would be well advised to market their calves at lighter weights but well finished, in order to take advantage of the more remunerative finished veal prices.

There is a ray of hope to be found in the new United States-Canadian Tariff Agreements, which have already reacted favourably for the months of November and December, 1938, and there is every reason to expect that in the opening months of 1939 and periodically throughout the coming year Alberta producers will see the price structure somewhat higher. In this connection, there would appear to be some responsibility devolving upon both the Department and the live stock industry of the Province in the development of a more orderly flow of finished animals to our leading markets.

The following figures show the number of cattle shipped out of the Province and their destinations during the years, 1936, 1937 and 1938:

	1936	1937	1938
To Saskatchewan	84,831	71,066	63,150
To British Columbia	6,151	3,086	9,453
To Manitoba	53,184	33,288	29,371
Ontario	14,162	49,795	28,519
Quebec	45,191	24,628	23,855
Nova Scotia	690	730	248
To New Brunswick	95	665	121
To Great Britain		32	214
To Prince Edward Island	108	33	
To United States	81,785	75,205	38,185
Total	317,054	258,528	192,796

THE PURE-BRED SALES

It is encouraging to note from the figures shown below, covering the 1938 bull sales, that returns to the breeders of pure-bred stock are maintaining a reasonable level after several years of low prices. The year 1938 also appears to promise a continued up-trend in these returns.

EDMONTON BULL SALES						
Breed.	1936		1937		1938	
	No. Sold	Av. Price.	No. Sold.	Av. Price.	No. Sold.	Av. Price.
Shorthorns	70	\$ 80.61	50	\$106.90	66	\$109.09
Aberdeen Angus	15	63.33	9	106.11	24	86.87
Hereford	16	96.56	6	164.17	25	107.60
Red Poll						
	101	\$ 84.41	65	\$112.07	115	\$104.13
CALGARY BULL SALES						
Shorthorn	187	\$ 99.92	181	\$108.15	96	\$129.58
Aberdeen Angus	82	79.39	88	94.82	50	109.20
Hereford	285	156.19	253	156.11	288	156.70
	554	\$125.83	522	\$120.15	434	\$145.23
LACOMBE BULL SALES						
Shorthorn	43	\$ 79.77	51	\$ 91.56	56	\$ 77.23
Aberdeen Angus	11	101.37	12	118.75	14	101.07
Hereford	26	88.27	27	154.81	32	113.75
	80	\$ 85.50	90	\$121.70	102	\$ 92.35

Hogs

The hog industry in this Province continues to hold an important place in both production and quality. That this becomes evident to the breeders seems to have been indicated by the fact that in 1938 they have shown a definite tendency to increase their holdings, thereby taking advantage of the better feed conditions. Reports reaching the Live Stock Branch indicate that new producers have been eager to get into hog production, and this should have a bearing on the volume marketed during the next year or two.

The hog producer should, however (and the Live Stock Branch is stressing the point), keep constantly in mind the fact that production of quality first, and quantity second, should be the aim of the Province at the present time. The British bacon market will absorb "selects" and the very best of "butchers," and it is pleasing to note that there was a marked increase in "selects" in Edmonton to some 3.2% of the total gradings, as against 26.5% for the previous year. Calgary also shows a corresponding increase in the percentage of "selects" being marketed. Two-thirds of our marketings still fall short of the top grade, and this in itself is a challenge to Alberta hog producers.

As was predicted in the last report, there was a considerable decrease in production for 1938, as shown by preliminary figures for the year, indicating total marketings of hogs for Alberta at 782,857, a decrease of considerable proportion under the 980,272 figure for 1937.

Below is a tabular summary of the 1936, 1937 and 1938 Calgary and Edmonton pure-bred swine sales:

EDMONTON SWINE SALES						
Breed	1936		1937		1938	
	No. Sold.	Av. Price.	No. Sold.	Av. Price.	No. Sold.	Av. Price.
Yorkshire Sows	37	\$ 23.12	20	\$ 23.85	19	\$ 30.68
Tamworth Sows	8	25.78	9	25.44	7	25.00
Yorkshire Boars	34	20.94	42	28.34	23	41.56
Tamworth Boars			4	21.75	4	32.00
Yorkshire Bred Sows					1	47.00
	79	\$ 22.65	75	\$ 26.44	54	\$ 34.98
CALGARY SWINE SALES						
Tamworth Sows	7	\$ 11.43			3	\$ 27.66
Yorkshire Sows	33	25.48	26	\$ 28.62	63	27.80
Berkshire Sows			2	21.50	6	27.17
Tamworth Boars	9	18.00	4	31.50	6	45.50
Yorkshire Boars	53	23.94	44	25.16	50	48.39
Berkshire Boars	1	10.00			4	32.25
	103	\$ 22.93	76	\$ 26.58	132	\$ 36.50

HORSES

It is gratifying to note that Alberta horsemen are each year becoming keenly interested in improving the class of horses raised in the Province. Much credit must go to those breeders who are making every effort to produce sound horses of the desirable type and conformation, a point which is evidenced by the continued demand from outside buyers.

It should also be noted that the demand is still growing, even though gradually, for draft horses for farm work. This is possibly due to the steady migration of settlers from the south-eastern section of the Province (most recently known as the drouth area) to the northern part of the Province where, in many cases, these settlers are now using horses in place of their previously used farm tractors and machinery, which have now become worn and depleted, and also to the fact that the smaller land holdings are more adapted to horse work.

It is encouraging to note from the following figures that the Lacombe Horse Sale continues to grow each year and attracts much attention from buyers at Montreal and the Northwestern States, and a great deal of credit must go to the management of this sale who, through their insistent demands that horses offered must be of good quality and in good flesh and must be properly fitted, have done much toward establishing reasonable top prices:

LACOMBE HORSE SALES			
Year	No. Sold.	Amount Paid	Av. Per Head.
1930	357	\$16,569.86	\$82.85
1931	605	33,465.00	55.31
1932	386	22,967.50	61.08
1933	187	10,328.00	55.23
1934	203	13,764.50	67.80
1935	366	25,110.50	68.60
1936	308	25,830.25	83.86
1937	540	50,712.00	93.91
1938	684	57,546.00	84.00

The prospects for the 1939 sale indicate that it may be larger than ever, as up to the time of this report some 550 head have already been listed for sale.

Mention should also be made of the outstanding success of the horsemen at the Royal Winter Fair in 1938, where Alberta exhibited three cars of horses, the largest entry for many years. Alberta heavy horse breeders established some well-earned records in the team classes, as well as taking away some outstanding winnings for horses shown on the line.

The following are the figures for 1937 and 1938, showing the total exports of horses from Alberta:

EXPORT OF HORSES FROM ALBERTA		
	1937	1938
To British Columbia	2,082	785
To Saskatchewan	1,509	2,167
To Manitoba	628	607
To Ontario	2,625	3,328
To Quebec	10,698	11,372
To Nova Scotia	942	510
To New Brunswick	1,353	622
To Newfoundland	23	20
To Prince Edward Island	204	199
To United States	990	600
To North-West Territories	....	4
Total Head Exported, 1938—20,214		

SHEEP

There is little to be added this year to the report of 1937 as regards sheep and lamb production in the Province, as the position of the Alberta sheep breeders maintains the same position so far

as the markets are concerned. The total volume of sheep and lambs marketed for 1937 at the Calgary and Edmonton Stockyards was 27,696, as against 28,171 for 1938, showing a small increase of approximately 475 animals during the year just ended. It is pleasing to note that the price structure was slightly higher than that of 1937.

The estimated values marketed during 1937 were approximately \$146,725, and for the year 1938, \$156,851, or an increase of \$10,126.

Below is a summary of the 1936, 1937 and 1938 Pure-bred Sheep Sales held in the Province:

Breed	1936		1937		1938	
	No. Sold.	Av. Price.	No. Sold.	Av. Price.	No. Sold.	Av. Price.
Suffolk Ewes	12	\$ 5.58	10	\$ 16.20	39	\$ 9.19
Oxford Ewes	2	6.00	6	6.50	5	6.30
Southdown Rams	8	20.38	6	21.33	9	18.44
Suffolk Rams	37	23.25	39	24.62	44	21.73
Cheviot Rams	9	14.11	1	21.00	3	18.33
Hampshire Rams	17	17.88	11	26.36	14	28.86
Oxford Rams	21	15.28	38	20.15	27	18.11
Shropshire Rams	9	15.78	7	20.43	11	16.91
		.....		..	16	11.00
	115	\$ 14.78	118	\$ 21.26	168	\$ 28.64
EDMONTON SHEEP SALES						
CALGARY SHEEP SALES						
Shropshire Ewes	9	\$ 8.44	6	\$ 17.67	4	\$ 12.37
Southdown Ewes	10	12.60	18	18.28	8	13.19
Suffolk Ewes	43	9.81	14	13.14	23	15.72
Hampshire Ewes	30	13.42	80	15.65	58	12.17
Cheviot Ewes	1	6.00	.....	.....	.....	.....
	93	\$ 11.10	118	\$ 16.18	93	\$ 13.15
Grade Ewes	165	\$ 3.37	172	5.18	172	6.01
Shropshire Rams	18	\$ 19.78	12	\$ 21.75	16	\$ 23.06
Southdown Rams	15	15.60	19	18.21	19	23.16
Corriedale Rams					6	34.17
Hampshire Rams	114	31.28	144	24.69	118	22.84
Rambouillet Rams			12	21.66	9	29.78
Suffolk Rams	101	18.60	53	15.60	72	22.54
Oxford Rams	1	30.00	..	.....	.....	.....
Cheviot Rams	5	14.00	1	20.00	..	.....
	254	\$ 24.15	531	\$ 15.12	240	\$ 23.33
LACOMBE SHEEP SALES						
Grade Ewes	176	\$ 3.25	169	\$ 3.45	No Sale Held	
Pure-bred Ewes	66	8.05	21	7.52		
Pure-bred Rams	62	18.80	62	15.25		
	304	\$ 10.03	252	\$ 8.74		

DAIRY CATTLE

It is becoming apparent that there is a growing interest on the part of the dairy breeders in the matter of improving their dairy herds with respect to production.

The dairy cattle population in 1938 decreased to 440,900 as compared with 453,600 in 1937, although butter and cheese produce increased during the same period.

These figures will show that the dairymen of the Province are taking steps to replace poor breeding stock with improved stock in order to raise the standard of fluid milk production. This is evidenced by the fact that butter and cheese produce has increased from 17% to 30% during 1937-1938, while the number of dairy cows has decreased some 3% for the same period.

The prices to breeders of commercial and pure-bred dairy cattle have been fairly remunerative during 1938, and recently there has been a good export market to the Hawaiian Islands, which has opened up a new channel for absorbing dairy stock.

DROUGHT AREA CATTLE

Owing to the favourable weather conditions prevailing in that section of the Province formerly known as the "drought area" during the Spring and Summer months of 1938, it was not necessary for the Province to continue the movement of "drought area" cattle which was in operation during the Fall of 1936 and 1937, and it is hoped that these conditions will continue to be favourable during 1939.

TORONTO ROYAL WINTER FAIR, 1938

Exhibits from Alberta again won outstanding honours at the Royal Fair held in Toronto from November 15th to 23rd. Total awards captured in 1938 were 211, as compared with 199 in 1937.

Acknowledgment should be made of the co-operation given by breed associations and their members to the Alberta Live Stock Board in facilitating selections of such a large number of prize-winning entries.

For the first time in the history of Alberta there will be three carloads of beef cattle from Alberta exhibited at an American West Coast Exhibition, this at the Golden Gate International Exposition to be held in San Francisco on February 18th, 1939, and it is anticipated that a number of honours will come to Canada through the medium of this Provincial exhibit.

The following is a summary of Championship Awards from the Royal Winter Fair:

Awards.	Horses.	Cattle.	Swine.	Sheep.
Grand Championships		1	....	....
Reserve Grand Championships		3	....	....
Championships		2	....	3
Reserve Championships		2	....	2
Senior Championships (Reserve)		1	....	....
Reserve Junior Championship		2	....	....
Junior Championships	2	3	....	....
Specials and Trophies		4	....	....
Grand Total of Championships Awards, 25				
Following is a summary of prizes:				
First Prize	5	25	1	9
Second Prize	8	25	1	3
Third Prize	3	21	....	4
Other Prizes	25	38	8	11

LIVE STOCK POLICIES

The Live Stock Branch of the Department inaugurated two new policies during 1938, namely, the Bull Exchange Policy and the Swine Improvement Policy.

Bull Exchange Policy.

This policy was instituted for the express purpose of eliminating scrub or grade bulls from herds in the Province, and the Department is particularly pleased to acknowledge the co-operation received from applicants and from breeders of pure-bred stock, commission firms, stockyards and railway officials on this policy. This splendid co-operation has made it possible for this Branch to secure and place an exceptionally good group of calves to replace the scrub or grade bulls being turned in under the policy, while at the same time good prices have been received by the applicants on these inferior bulls turned in for sale for slaughter.

Increased educational work is being done by the fieldmen of the Department in their various districts toward assisting the applicants to give these pure-bred calves the proper care in feeding and growing them out, in order that they may be ready for service in the spring of 1939.

In addition to the operation of the Bull Exchange Policy, approximately 100 transactions have been arranged between fieldmen, farmers and breeders for the purchase of more mature pure-bred animals. In this connection the Branch has established a listing bureau in which breeders may list animals they have for sale and from which enquiries for such animals may be filled. Many breeders are availing themselves of this service.

Swine Improvement Policy.

This policy is in the process of formation and also aims at eliminating all undesirable type boars by means of providing transportation for groups of three or more pure-bred boars going into any one district. Assistance is being given in connection with this policy by the fieldmen in the locating of desirable pure-bred boars, and it is hoped to further develop the policy during the next few weeks and to encourage still more the elimination of the undesirable boar. In addition, the Department proposes to introduce some new blood lines of hogs into the Province by bringing in a carload of Advanced Registry boars to be sold at cost to breeders, and to assist Alberta breeders in moving their desirable young boars.

The Department is laying emphasis on the improvement of quality rather than on increasing production for the present year.

FAIRS

Assistance was given by the District Agriculturists and fieldmen of the Branch at Field Days, Agricultural Short Courses, Agricultural meetings and Junior Live Stock Clubs during the season, and this service will be continued throughout the coming year. Much of the success of these fairs is directly due to the increased interest shown by the members of communities in which these functions were held.

Grants have been continued on a very restricted scale to Class "B" and "C" fairs and assistance rendered to "A" fairs only in connection with judges. The two groups, comprising the smaller fairs in the Province, are finding it extremely difficult to make any financial progress on the small grants allowed, and it would appear that the whole matter of fairs policy and of the grants to be made to these fairs must receive early and careful consideration if they are to be maintained on a basis which will enable them to fulfill the very important function they can and have done. The value to the psychological as well as the agricultural phases of the community of an active local fair has, this Branch feels, been amply demonstrated in the Province during the past decade. The problem of how to increase that value deserves the best thought of the entire Province.

DISTRICT AGRICULTURISTS

Reports covering the activities of the several District Agriculturists are included later in full, covering their respective districts.

It is felt desirable to point out here that the rural communities of the Province have practically doubled their demands on these fieldmen during the past three years. The problem is no longer one of encouraging agricultural producers to take advantage of the help available in the District Agriculturist service; it is now one of trying to meet all these demands in the most efficient manner.

One gratifying feature of this demand for service is that an increasing amount of the demand is from adult producers in the meeting of actual and troublesome farm problems. This is no

doubt due to the excellent contact established with farmers and stockmen through the medium of Junior Club activities during the past few years. That Junior Club activity has done a signal service to the farm youth of the Province, and has also aroused a new interest on the part of adults, has in itself created a problem for this Branch in that it means a careful adjustment of the services offered in order to keep a proper balance between the various phases of work sponsored in the various districts. Many districts of the Province have not yet been given the advantage of this service because of the large areas necessarily allotted to each District Agriculturist. It is hoped to find a means of endeavouring some work in these new areas.

STOCK INSPECTION ACT

The work under this Act has resulted in the return to the rightful owners of a large number of stock shipped to market, usually plainly in error, by others.

Amendments are being proposed to the Act for the purpose of enabling more strict enforcement and with a view to bringing some sections of it up-to-date and in keeping with new conditions, particularly as to stock transportation, in the Province.

Stock growers organizations and the Royal Canadian Mounted Police have given whole-hearted co-operation in the enforcement of the provisions of the Act, and that assistance is here acknowledged.

LIVE STOCK FEEDING

Six live stock feeder associations have been set up under the provisions of the "Feeder Associations Guarantee Act," these centering on Cardston, Lethbridge-Picture Butte, Brooks, Olds, Lacombe and Edmonton. Three of these, the Picture Butte, Brooks and Edmonton associations started late in the season, but the interest shown seems to indicate that there are likely to be more applicants for membership in the coming year than can be handled by the present associations.

Supervisors have been provided for these associations by this Branch, and the next report of the Branch will contain some detailed data as to the operations of each of them.

It should be stressed, perhaps, that this feeder association policy has received commendation from all phases of the live stock industry as a progressive step in the direction of establishing a permanent feeding policy on farms in the Province.

BRAND RECORDING

During the year 523 new horse brands, 737 new cattle brands, 10 fox brands, 1 sheep brand and 2 poultry brands were recorded by the Brand Recorder, while 54 transfers were registered. Searches and strays and certified extracts numbered 1,183, renewals 2,816 (cattle 1,840 and horses 976), making a total of 5,326 transactions. Compared with 1937, these figures show an increase of 227 cattle brands, 63 horse brands, 248 renewals, 1 poultry, and 1 sheep brand, and a decrease of 51 fox brands, 1,088 strays and 40 transfers.

The approximate numbers of brands now in good standing in the office of the Recorder are as follows:

Horse Brands	7,320
Cattle Brands	12,018
Poultry Brands	14
Sheep Brands	7
Fox Brands	102

REPORT OF THE POULTRY COMMISSIONER

(C. W. TRAVES)

Few realize the importance of the poultry industry to Alberta as a Province or to Canada as a whole. To Alberta it represented during 1938 in sales of eggs and poultry slightly more than \$6,000,000, and to Canada \$100,000,000. These in themselves are amounts of no mean importance, and yet they represent the industry at a point considerably below what it had been before the depression years. As an estimate of what it had been, the egg production for Alberta during 1929 was 64,000,000 dozen and for 1938 only 34,000,000 dozen. As with other industries, various conditions affected poultry, but if we keep in mind the fact that no other industry of its size in Canada, agricultural or otherwise, has so many people other than producers making a living off it than has the poultry industry, and also that less attention has been paid to the marketing of poultry and poultry products than the marketing of other agricultural products, we wonder that the industry is as important as it is.

During the period of drought that affected a large proportion of the west, the Provincial and Dominion Governments spent millions of dollars moving heavy live stock to more favourable areas, moving feed to special areas, slaughtering stock and paying the farmers a price above the value of that stock, and on direct relief to the farmers themselves. During that period no other phase of agriculture kept so many farmers off relief as did poultry; in fact, it is still doing so in many areas, and yet the regulations limited the number of birds on the farms in those areas to a point where it was impossible to make a living off the birds. District agriculturists and others in the drought areas state without reservation that had it not been for the poultry kept by many farmers in those areas, that many more families would have been on relief. In view of these facts, the whole situation should be given a thorough investigation in order to prevent a similar situation arising again in case of another dry spell.

The drastic drop in egg prices during the early part of 1938, coupled with the relatively high prices for feed, tended to discourage many interested in poultry and particularly those who depended on their poultry for their livelihood. As the season progressed, however, the markets became steadier and finally strengthened, and the year ended with the best average prices that had been obtained for eight years. Feed prices acted contrary to the egg prices, with the result that the average paid by poultry men was considerably below the average for several years. The initial estimates regarding chick sales had to be revised materially, as the demand strengthened with the stronger egg market, finally resulting in the largest sales for chicks in the history of the Province. This would not necessarily mean any material increase in the poultry population, but rather that a larger percentage of the farmers of the Province are purchasing chicks from blood tested and approved flocks in preference to hatching at home. This tendency is more noticeable each year and, with the steadily increasing confidence in Alberta produced chicks, will mean a continuous increase in the number of pure-bred poultry kept on Alberta farms.

MARKETING CONDITIONS AND NEED FOR CONTROL

The size of the industry is sufficient to convince even the most skeptical that it is worthy to be considered more than something of a side line. The more we study the conditions under which eggs and poultry are marketed, the more we wonder that the farmers and poultry specialists have been able to make such a creditable showing. As stated before, the number of middlemen, hawkers and peddlers, magazine and newspaper agents, commission agents, truckers, free-lance buyers, besides the legitimate retailers and wholesalers, taking their share of the spread between the consumer and producer prices is greater than in any other industry of its size in Canada. For approximately twenty years we have had regulations for grading of eggs. These regulations have been of material benefit to the consumers, and have given the legitimate trade some protection, but have not been of any great benefit to the producers. Their greatest weakness is in the fact that they do not eliminate any of the undesirable elements in the trade. Realizing that before any definite headway could be made these undesirable elements would have to be brought under control and eliminated where necessary. For the protection of the legitimate wholesaler and retailer as well as for the producer, the governments of Manitoba and Saskatchewan several years ago enacted regulations licensing the industry. These regulations accomplished much good, and on March 15th, 1938, the Government of Alberta passed similar regulations. Naturally, after years of virtually no control, the application of these regulations had to be gradual and, although the industry is still in a state far from satisfactory, it is safe to say that an appreciable percentage of the undesirables in the trade have either discontinued their operations entirely or have changed their mode of operation for the better, resulting in a betterment of conditions for the legitimate trade and for the producers.

Enforcement of these regulations have brought clearly to the front the need for an "Alberta Poultrymen's Act" similar to The Dairymen's Act, giving to the Department of Agriculture the same control over the poultry industry that they have over the dairy industry. The present juggling of grades and paying prices to producers on eggs does not give to the legitimate trade any sense of security in their dealings. Coupled with this is the fact that there are no compulsory grading regulations on live or dressed poultry, which only adds confusion to the producers and to the legitimate trade. Also, the consumer is not getting the protection when buying poultry that they get when buying eggs. These conditions can only be eliminated by the passing and enforcing of sane and sound regulations made under an act specifically drawn up to cover this industry.

BLOOD TESTING

The usual blood test programme is being followed this year with the added clause that any flock showing a reaction of over 8% to the Pullorum test must be re-tested before that flock can ship eggs for hatching purposes. It is felt that after several years of testing more definite steps must be taken to eradicate the disease if the expenditure of public funds is to continue for this purpose. This year all the turkeys being banded are also being blood tested. It was felt that now was the time to check Pullorum in the turkeys and not after the incident rate had developed to the high percentage it reached in other forms of poultry. As a result of this step,

Alberta is the first province in Canada where all banded turkeys are Pullorum free and where any approved hatchery can hatch for the breeders and sell poults from disease free stock. The co-operation of the majority of the flock owners and the hatchery men has been very encouraging, and is proof that they are behind the Department in any progressive programme.

FLOCK IMPROVEMENT

Coupled with the higher standard required in the blood testing, the Department is tightening annually the standard requirements of the birds being banded for hatchery approval. Also the housing, sanitation, and general management requirements are being raised. It is felt that the interests of the thousands of chick buyers in Alberta must be fully protected if the breeding and hatchery business is to be materially increased and the quality of the resultant stock what it should be.

The use of R.O.P. (Record of Performance) and pedigreed males is being encouraged by the Department, and the more progressive breeders and hatchery men are showing a great interest in this forward step; in fact, the hatchery men are paying a premium for eggs from flocks headed by pedigreed males, and in some instances are keeping that class of stock separate and are listing them as such. They are also asking that as soon as possible only hens mated with pedigreed males be used for the production of hatching eggs.

The Dominion Department of Agriculture refunds 75 cents on each R.O.P. male purchased, and if 10 or more are purchased at one time the transportation is refunded as well. This is a very definite step in the right direction, but the Provincial Department feels that it should be carried further, and at the present time has under advisement a plan whereby the distribution of pure-bred cockerels and turkey toms will be assisted along similar lines to the distribution of pure-bred sires in other forms of live stock.

As a result of the Department's policy of progressive improvement there has been an encouraging increase in the number of R.O.P. flock entries in Alberta. There has also been many requests for the renewal of the Winter Flocks Test programme. If the demand is sufficient and the funds available, this would be a preparatory step towards building up some more good flocks to enter into the final step, R.O.P.

During 1939 the Department hopes to organize a number of poultry clubs in centres where the poultry population is fairly heavy. These clubs will be the organizers for meetings, demonstrations and field days in their various districts, and during the season of flush production of eggs and poultry, especially during the marketing of dressed poultry for the Christmas season, should be the nucleus for co-operative marketing.

JUNIOR ACTIVITIES

This is the first year that the junior clubs and judging classes have been encouraged by the Department. Two clubs are being coached in Edmonton and one in Calgary. With the reorganization work being done, the Department was not able to assist those doing the coaching as much as was hoped for, but several meetings were held. This is the first year that juniors from one centre have gone to another to compete in the junior judging, two going from Edmon-

ton to the Provincial Poultry Show at Calgary. It is hoped that other teams will be formed, and that at a not too distant date Alberta will be represented at the Toronto Royal by a junior poultry club.

POULTRY SHOWS

Poultry shows are showing a decided trend upwards both as regards number of birds being shown and in the quality of the exhibits. The Toronto Royal this year was the largest since 1929, and the quality was said to be of the best ever shown. Alberta sent the usual exhibit and won 42 places, including 9 firsts, 13 seconds, and 7 thirds.

The Provincial Shows at Edmonton and Calgary were the largest for many years, and the exhibits at the summer shows were such that any increase will mean that larger and better space will have to be found.

PROVINCIAL POULTRY PLANT AND EXPERIMENTAL WORK

Following out the policy set last year, the Provincial Poultry Plant at Oliver sold this fall only males of known pedigree to the poultry breeders. For the first time in many years the production, fertility, hatchability, livability, etc., records of the plant flock are being scientifically studied and progeny testing carried on. Only by scientific methods can the best results be obtained. The turkeys are being mated along similar lines for the first time at the Oliver plant. The better class breeders in the Province are going to be encouraged to carry on this work on a larger scale, and the Department's policy of not selling at excessively low prices will assist in the developing of breeding work through the Province.

As funds and equipment permit, experiments on winter heating of laying houses by coal, oil and electricity are being carried out. The same three methods of supplying heat in the brooder houses will also be tested. Ventilation problems, nutrition, etc., will be definitely studied at the plant for the first time.

Up to the present only one method of blood testing for Pullorum has been studied in Alberta; in fact, it has been carried out but never compared with any other method for efficiency or economy. Realizing that one-third of the total poultry appropriation issued on this work and that the eradication of the disease is leaving much to be desired, the Department is comparing the present Tube Agglutination Laboratory method with the Whole Blood Test as carried on in the field. Either the Department will have to follow some more efficient and economical procedure or additional funds will have to be found by the Government for the work and by the farmers as well. Results of the experiments now being conducted will be available in the fall of 1939.

REPORT OF FISH AND GAME COMMISSIONER

(W. H. WALLACE)

Due to the necessity for brevity, it is obvious that many items of interest pertaining to wild life resources must later be followed by more complete information in printed form.

Game and fish enforcement has been most effectively undertaken by the larger outside staff required to take care of the increasing demand for conservation.

During the period under review larger bounties were paid on wolves and other predators, as indicated by the amounts paid out of the funds earmarked for the purpose.

It is with gratitude I express my sincere appreciation to the general public, sportsmen's association, fur associations, and the Royal Canadian Mounted Police, who have by assistance, constructive advice and personal interest undertaken to assist these branches during the year. The increasing effectiveness of this support is reflected, I believe, in that our wild game and fish resources are now definitely in the main on the increase.

MIGRATORY GAME BIRDS

Undoubtedly whilst the tremendous numbers of ducks and geese which were to be found in all western provinces, especially Alberta, are not now to be found, there is a decided increase reported in all species during the year under review.

Drought conditions in the Peace River district were disturbing, but betterment of the conditions in the rest of the Province through increased water in the sloughs and lakes contributed materially to the picture.

The Department saw fit to assist in the payment of a supervisor at the Inglewood Bird Sanctuary, who reported excellent conditions generally prevailing, with a decided increase in our winged visitors at the Sanctuary.

The Government as well supported the movement "Ducks Unlimited" (Canada) by providing office space, and collaborated with this excellent organization in many measures towards the general good.

UPLAND GAME BIRDS

The breeding and nesting season of the early spring of 1938 was generally good, and the hatch satisfactory. Hungarian partridge later suffered through hailstorms and possibly other detrimental conditions. These splendid game birds are on the increase north of Calgary and around the St. Paul district. Large coveys are also to be found west of Red Deer. Our sharptail grouse and ruffed grouse suffered through disease. In places these birds have made a remarkable recovery, and a short pen period was permitted in the area north of Red Deer, where reports indicated good numbers evident.

Chukor partridge were planted by southern sportsmen, and the Branch collaborated with northern sportsmen in the raising of birds from eggs supplied. The experiment will be closely watched and conservation guarded through new regulations enacted for their safety.

Pheasants are holding their own, but due to a superabundance of male birds, it may be necessary to have a short open season for their control.

FUR PRODUCING ANIMALS

The total number of animals taken during the fur year extending from July 1, 1937, to June 30, 1938, amounted to 1,476,698, and the total revenue derived from the sale of furs approached slightly over one and a quarter million dollars.

During the last year there has been an entire close season on beaver throughout the Province, with special permits issued in the southern part of the Province, where damage was being done by these animals. The close season on muskrat south of the North Saskatchewan River is also being continued, with special permits in the regular way. There is also a close season on badger.

MUSKRAT, BEAVER AND BADGER PERMITS ISSUED, 1937-1938

Muskrat permits issued	258
Musk rats reported taken	3,224
Beaver permits issued	28
Beaver reported taken	33
Badger permits issued	6
Badger reported taken	2

FUR FARMING

The fur farm industry has reached quite large proportions in Alberta, there being 853 licensed fur farms on which there were reported to be 77,112 animals, valued at \$1,010,663.55 on a pelt valuation. There were pelted on these farms during the past year 34,115, having a pelt valuation of \$517,515.84. In point of numbers and value fox leads, followed by mink and muskrats. There is still an increasing interest in this industry, and the quality of animals kept is steadily improving. As there is a world market for fox and mink pelts which is likely to continue and increase, the outlook for those engaged in fur farming is very bright.

Provincial Government Experimental Fur Farm.

The new Government Experimental Fur Farm at Oliver is now firmly established and stocked with a very good class of fur, both foxes and mink, as this Department recognizes that the fur industry is of great importance to the welfare of many residents of the Province, and in this way hopes to render the utmost service in that this industry may be firmly established.

Supervision of fur farms has been continuous throughout the year, with the object of assisting beginners in this industry and enforcing the Fur Farm Regulations.

Fur farm field days, pelting demonstrations and lectures were also held throughout the Province, which proved to be of great value to the fur farmer.

The University of Alberta has also co-operated with this Branch, and a vaccine has been produced which has proved to be successful in preventing disease among our ranch raised fur-producing animals.

BOUNTY ON TIMBER WOLVES, TIMBER WOLF PUPS AND COUGAR

Reports having been received in this office to the effect that timber wolves, otherwise known as gray or black wolves, and cougar are so numerous as to constitute a menace to big game and

other wild animals, a bounty was placed on these predators, and the following bounty was paid:

349 Timber Wolves, at \$5.00	\$1,745.00
39 Cougars, at \$20.00	780.00
12 Timber Wolf Pups, at \$2.00	24.00
	\$2,549.00

DESTRUCTION OF CROWS, MAGPIES AND GOPHERS

A continued interest is being maintained in the destruction of these pests. The Fish and Game Protective Associations have co-operated, and in many cases have given bounties and prizes in addition to the prizes awarded from this competition:

The result of the competition shows as follows:

Crows and Magpies	88,436
Gophers	606,549
Crows' and Magpies' Eggs	145,555
Destroyed by School Children:	
Crows and Magpies	50,084
Gophers	538,244
Crows' and Magpies' Eggs	116,954
Destroyed by Adults:	
Crows and Magpies	38,352
Gophers	68,305
Crows' and Magpies' Eggs	28,601
The amount paid in prizes amounted to \$4,188.00.	

FISHING

It is with further pleasure I submit the additional report regarding fishing, both commercially and from a sport point of view.

This report covers the period from April 1st, 1937, to the end of the fiscal year March 31st, 1938.

Commercial fishing again indicates increased activity, particularly with regard to the amount now used by the increased number of mink and fur farmers using the product. It has been a fact that until lately considerable difficulty has arisen through the inability of the markets to consume the vast amount of coarse fish (herring, suckers, tullibee, ling and jackfish). On the contrary, this year the entire catch of coarse fish is now marketed within the Province.

The total amount of fish produced was 6,201,917 pounds, an increase of 172,060 pounds over the year previous, and the value to fishermen and value as marketed was: Value to fishermen, \$252,771; value as marketed, \$464,842, an increase in the as marketed value of \$79,478. To the aforementioned must be added an approximate amount of poundage used by fur farmers of 1,829,665 pounds—a grand total of 8,031,582 pounds with a valuation of \$519,732.

To the above must be added the amount of fishing carried on by the Indian, half-breed and settler population. Every lake has its complement of ardent fishermen who are satisfied with enough fish for their larder. This has increasingly become a feature of importance economically.

Sport Game Fishing.

Better conditions prevailed as water conditions, excepting in the late fall, were better; but reports indicate a lesser amount of trout taken than before. The staff was increasingly busy during the later fall months in saving stranded game fish.

Equipment.

Fishermen, generally speaking, purchased some new nets, and the ice houses and general equipment were better cared for by improvements than for the year previous.

Commercial Fishing.

Better general prices prevailed, although the usually good March market was absent. This primarily is the main winter market, and due to the lateness of the Jewish holiday and the lawful close season, fishermen had perforce to be satisfied with lower prices than usual. The summer market was limited to a few weeks, and above average prices prevailed. It may be said, however, that the all year round market now developed for fur-farming operations has considerably stabilized conditions both at Lesser Slave Lake and at Lac La Biche, where the main fisheries of the Province are situated.

Markets.

Markets generally, with the exception of local markets, were from fair to poor, and the intense competition of nearer fresh water western lakes to the New York and Chicago markets reflects on the unsatisfactory general condition prevailing in the export market.

Domestic Fishing.

The total amount of fish produced for the year ending March 31st, 1938, through this source was 202,000 pounds, the number of licenses taken out reduced from 489 to 192.

Indian Fishing.

Fishing permits issued to Indians during the year totalled 811, a reduction of 50. The estimated quantity of fish caught amounted to 811,000 pounds, with an approximate value of \$40,550.

Licenses and Permits Issued.

		Decrease	Increase
Domestic Licenses	192	297	
Fishermen's and Commercial Licenses .. .	2,932		540
Angling Permits sold by Fisheries Division ..	4,463	171	
Angling Permits sold by Forestry Division ..	173		17
Indian Permits	811	50	
Boat Licenses	25	....	.....
Totals	8,596	518	557

Net increase over previous year, 39; or a total net increase over the two-year period of 447.

Angling.

Reports received indicate good fishing, especially in the Raven, Highwood, Bow and Elbow River, and as well at the Kananaskis and Spray Lakes, but very poor and indifferent results in the streams west of Edmonton. Coarse fishing by rod and line and trolling continues excellent, and serves as a sport for the greatest number of our residents.

Fish caught by angling is estimated as follows:

Trout	216,000	pounds
Rocky Mountain Whitefish	105,000	"
Arctic Grayling	60,000	"
Goldeye	7,000	"
Pickeral	84,300	"
Perch	303,000	"
Pike	615,000	"
Sturgeon	2,000	"
Chub	5,000	"
Total	1,397,300	pounds

a net increase of 92,200 pounds. The total value is estimated at \$69,865.

OBSERVANCE OF THE REGULATIONS

Throughout the period indicated in the report, successful prosecutions numbered 140, an increase of 45, or over a two-year period of 65, strikingly illustrating the better administration and co-operation received. Confiscation of illegal apparatus numbered 188, or an increase of 42 over the year previous. The enforcement of regulations was forcefully undertaken throughout the entire Province.

FISH CULTURE

Details of the distribution from the various hatcheries into waters outside the National Parks are as follows:

LESSER SLAVE LAKE HATCHERY			
Whitefish eyed eggs	54,000,000	Distributed in 14 Lakes.	
Whitefish Fry	60,550,000	Distributed in 1 Lake.	
Whitefish Fingerlings	250,000	Distributed in 1 Lake.	
Total	114,800,000	Distributed in 16 Lakes.	
an increase of 14 plantings.			
GAME FISH FRY AND FINGERLINGS—DISTRIBUTION BY HATCHERIES			
Banff Hatchery			1,197,400
Jasper Hatchery			138,203
Waterton Lakes			655,325
Total			1,990,928

NUMBER OF PROVINCIAL WATERS STOCKED					
No. 1 Fingerlings	No. 2 Fingerlings	No. 3 Fingerlings	No. 4 Fingerlings		Fry Advanced Fry
13	1	.	....	Rainbow	17 34
....	....	....	....	Lock Leven	4 37
.	.	...	...	Speckled	1
9	10	1	...	Cutthroat	1 10
1	1	.	1	Salmon Trout	.
23	12	1	1		23 81
Total—141.					

GENERAL

In conclusion, I would report the optimum of results from our conservation and re-stocking schemes, and it is hoped to continue along these progressive lines in the future.

REPORT OF THE PROVINCIAL APIARIST (S. O. HILLERUD)

The season of 1938 accented all the unusual features of the previous year. The July and early August flows were poorer or entirely lacking, while the very heavy late August flow, beginning about the 26th of the month, carried on through the whole of September and well on into October in the greater part of the Province. The usually commendable practice of "doubling" colonies with less than five combs of brood shortly after the 15th of June was not satisfactory, as the expected flow failed and swarming was frequently a major problem. The less experienced beekeepers, happily unaware in many cases of supersedure, won on the long odds of a September flow—the first important September flow since 1922—letting their weak and superseding colonies build up to reach peak strength in good time for the late flow. Late "increase" built up well, and should carry through the winter in excellent condition.

PRODUCTION

The 1938 honey crop is estimated at 2,418,158 pounds, an increase of 258,158 lbs. over last year. Most of the crop sold for 7 cents a pound, and practically all the large producers had disposed of their crop by the end of September. There remains a very considerable quantity in small lots throughout the country, which will probably be absorbed locally. Most of the honey was of good quality, excellent body and light in colour, but the September flow brought with it some dark low-grade honies in northern districts.

MARKETS

Local markets were slow and offerings liberal throughout the early part of the season. This was due largely to the fear of disorganized selling on the part of buyers. During 1938 approximately five out of every six pounds of honey produced in the Province was obtained from the prairies of farmers and others who depend upon other enterprises for the major part of their income. Because their individual crop is small they fail to realize the significance of small surpluses in the aggregate, and the effect of such lots poured upon an unorganized market.

EXPORT

The high quality of Alberta honey has improved our position in the markets of British Columbia and Saskatchewan, and it is known that a total of 500,000 pounds was shipped to these two provinces, chiefly from the commercial apiaries of Lethbridge, Taber and Brooks. Arrangements for the shipment of honey to Great Britain were made, but owing to the shortage of July and early August honey, this excellent market was not entered.

This is undoubtedly a short-sighted policy, but since the carload shippers have for the moment a satisfactory market and will not enter upon export till forced to do so, it is evident that it will be necessary to organize the smaller beekeepers and assemble carload lots for shipment if we are to obtain a place in this highly desirable market.

DISEASE

A new outbreak of disease occurred in Census district No. 11, and careful inspections of apiaries were made by Mr. Duncan Chalmers. A thorough inspection was carried out in Census District No. 2 by Mr. Robert Graham, and a partial inspection begun in Census District No. 2, which was not completed owing to the lateness of the season and lack of funds. There is an increasing need for more inspectors and funds to carry on this work.

Inspectors	Apiaries Inspected	Colonies	Colonies with A.F.B.
Chalmers, D.	228	1,633	20
Graham, R.		1,842	40
Hillerud, S. O.	61	830	5
Total	289	4,305	65

ALBERTA BEEKEEPERS' ASSOCIATION

This is an affiliation of the various district beekeepers' associations of the Province interested in the advancement of beekeeping.

Mr. L. N. Gregory, President of the Westlock Association, succeeded in tying for third place at the Imperial Honey Show, Bristol, England, and it is hoped his success will lead to interest in honey shows and exhibits of honey both provincially and abroad.

The Edmonton Association carried out a very successful honey week, which will likely become an annual event and be supported by all district associations in future years.

The three years' work on supersedure of package queens and observations on the development of package colonies jointly carried out by the Apiculture Branch, the Alberta Beekeepers' Association and the University of California was completed this fall, and the results will be available shortly. Mr. R. H. Hawthorne, President of the Association, placed a fifty colony yard at the disposal of the association for the three-year study, and the Calgary Association also carried on a number of studies.

Co-operative purchasing of bees and bee supplies is a common activity of the district associations, and is often guided by the District Agriculturist.

EXTENSION

A days' Short Course was held in St. Paul, and a week was spent at the School of Agriculture, Vermilion, giving a course of lectures to the student body. Twenty-one meetings were held in Edmonton, Brooks, Myrnam, Mundare, Thorsby, Claresholm, Tofield, Westlock, Vegreville, Smoky Lake, Grande Prairie, Berwyn, Fairview and Millarville, with a total attendance of 825 and an average attendance of 39. The District Agriculturists arranged for the meetings in their respective territories.

HONEY PRODUCTION, 1937-1938

Census District	1938 Production of Apiaries of Reporters	1937 Production of Apiaries of Reporters	1938 Average Per Colony	1937 Average Per Colony	1938 Estimated Production Non- Reporters	1937 Estimated Production Non- Reporters	1938 Estimated Production for Census District	1937 Estimated Production for Census District	1938 No. of Wintered Colonies	1937 No. of Wintered Colonies
1	117,644	144,981	171	192	5,152	5,376	122,796	150,337	43	76
2	550,207	595,131	152	155.7	275,272	106,810	825,479	701,941	699	711
3	633,165	542,928	193	188.5	128,538	110,272	761,703	653,200	99	375
4	14,518	15,777	127	134.8	8,382	5,931	22,900	21,708	37	50
5	210	110	70	36.6	37	37	210	147	...	2
6	101,541	41,012	191	125.0	17,954	47,375	119,495	88,387	172	133
7	17,085	9,070	117	78.8	59,670	45,340	76,755	52,410	58	59
8	62,108	38,460	163	105.3	14,670	24,745	76,778	63,205	249	230
9	10,360	10,088	104	127.6	6,968	3,955	17,328	14,043	73	56
10	23,906	25,524	96	100.0	8,928	36,200	32,834	61,724	135	123
11	118,589	89,483	116	95.0	46,168	46,860	164,757	136,343	670	691
12	3,466	875	62	39.7	6,014	2,223	9,480	3,098	33	27
13	9,830	3,150	182	85.1	2,912	1,787	12,742	4,937	40	31
14	104,524	111,907	165	224.7	47,685	77,970	152,209	189,877	374	334
15	11,718	4,104	189	102.6	5,481	11,799	17,199	15,903	*65	91
16	3,845	1,322	103	77.7	1,648	1,398	5,493	2,720	26	16
	1,782,716	1,633,922		...	635,442	526,078	2,418,158	2,160,000	2,773	3,005

Provincial Average—158.

*Definite efforts were made toward increase, and the colonies to be wintered are greater than the colonies in June.

DEPARTMENT OF AGRICULTURE

BEEKEEPERS, 1937-1938

Census District	1938 Reporters	1937 Reporters	Dropped Out	1938 Non- Reporters Known to be Operating	1937 Non- Reporters Known to be Operating	1938 Total Number of Beekeepers in Census District	1937 Total Number of Beekeepers in Census District
1	8	7	5	5	11	13	18
2	73	73	10	40	62	113	135
3	30	33	4	31	16	61	49
4	17	14	3	9	12	26	26
5	2	2			1	2	3
6	68	67	7	20	31	87	98
7	51	45	10	17	21	68	66
8	73	69	5	24	58	97	127
9	14	13		4	11	18	24
10	84	85	7	29	148	113	233
11	182	174	15	97	100	279	274
12	12	18		8	4	20	12
13	20	14	1	7	7	27	21
14	77	54	3	42	41	119	95
15	23	14	1	8	35	32	49
16	13	5	1	6	6	19	11
	747	677	72	348	564	1,094	1,241

REPORT ON AGRICULTURAL RELIEF

(Jos. FICHT, *Supervisor*)

The Relief Branch of the Department of Agriculture has continued the administration of policies outlined in the 1937 Report, namely, the Relief Settlement Plan, relief feed for maintenance of live stock, the distribution of relief seed, tractor fuel and feed for seeding and summerfallowing.

In addition to these policies, this Branch had charge of the operation of the Yeast Ranch, near Manyberries, Alberta, which was leased for winter maintenance purposes, and co-operated with the Live Stock Branch in administration of the policy for shipment of live stock to feeding grounds for the winter of 1937-38.

FEED AND FODDER FOR WINTER MAINTENANCE

As a result of continued drought conditions in 1937, the Dominion Government provided financial assistance for the feeding of farm live stock during the winter of 1937-38. Assistance under this policy was extended on condition of certain regulations being followed. The large demand for feed throughout the drought area of Alberta and Saskatchewan made it necessary to limit assistance to farmers who had small holdings of live stock, or those who reduced their live stock to conform with the regulations. Farmers and ranchers with larger numbers of live stock were assisted by the policy for transportation of stock to winter feed, and by the provision of a cattle marketing plan. The following table shows the amounts of feed grain and roughage distributed under the winter feed policy.

TABLE I.
DOMINION WINTER FEEDING PROGRAMME

	Relief		Cash Sales	
	Quantity	Value	Quantity	Value
Wheat	Bus. 1,746	2,034.57	Bus. 100	106.00
Oats	Bus. 343,916	159,701.06	Bus. 98,122	45,158.59
Barley	Bus. 30,411	17,858.57	Bus. 14,789	8,417.01
Bran, Shorts, and Chop	Lbs. 103,300	1,258.49	Lbs. 3,900	44.84
Hay	Tons 8,358	94,124.74	Tons 1,296	13,994.20
Straw	Tons 10,442	81,168.61	Tons 1,774	13,261.13
Totals		356,146.04		80,981.77

NOTE: As no free freight was granted during this period, freight charges were assessed as prices for grain distributed. The figures given are therefore all costs, including purchase cost, freight cost, handling and storage.

SPRING FEED

The winter maintenance policy was discontinued March 31, 1938. Spring feed and tractor fuel, as well as relief seed, was provided under a policy of guaranteed bank loans to individual municipalities and local improvement districts. The loans were guaranteed by the Provincial and Dominion Governments on the understanding that distribution of assistance should be administered by the Province under the Agricultural Relief Advances Act.

It was necessary for this Branch to arrange for purchase and shipment of grain roughage for the spring policy as well as for winter feeding. The following table shows the amount distributed from such purchases, but does not include any small amounts of feed which may have been purchased locally by some municipalities:

DEPARTMENT OF AGRICULTURE

TABLE II.
SPRING 1938 FEEDING PROGRAMME—RELIEF DISTRIBUTION PAID FOR BY
DISTRICTS OUT OF BANK LOANS GUARANTEED BY THE PROVINCE
AND DOMINION

	Relief		Cash Sales	
	Quantity	Value	Quantity	Value
Oats	Bus. 350,369	165,221.12	Bus. 25,436	11,336.02
Barley	Bus. 3,114	1,998.58	Bus. 914	582.10
Chop	Lbs.		Lbs. 10,300	156.55
Hay	Tons 3,611	48,114.30	Tons 382	4,638.48
Straw	Tons 501	4,337.67	Tons 203	1,309.94
Totals		219,671.67		18,023.09

NOTE: The figures given include freight, handling and storage.

FEED AND FUEL OIL FOR SUMMERFALLOWING

The Dominion-Provincial bank guarantee did not include borrowings for feed and fuel oil for summer cultivation. However, it was decided that assistance should be given, and a small allowance was granted to farmers in the most severely affected districts, where repeated crop failures had made it difficult to obtain credit, even though crop prospects for 1938 were more promising. Distribution under this policy is shown below:

TABLE III.
SUMMERFALLOW PROGRAMME, 1938

	Relief		Cash Sales	
	Quantity	Value	Quantity	Value
Wheat	Bus. 152	86.62	Bus.	
Oats	Bus. 58,755	26,698.19	Bus. 28,299	5,281.67
Barley	Bus. 715	473.86	Bus. 2,862	549.43
Shorts	Lbs.		Lbs. 400	5.80
Hay	Tons 17	166.91	Tons 59	234.23
Straw	Tons		Tons 70	81.92
Tractor, Fuel and Lubricating Oil		47,345.27		
Total		74,770.85		6,153.05

NOTE: The figures given include freight, handling and storage.

RELIEF SEED AND TRACTOR FUEL OIL FOR SEEDING

As previously indicated, the above commodities were provided through bank loans advanced under Provincial and Dominion guarantees. All applications were examined by representatives of this Branch, and were dealt with in accordance with the terms of The Agricultural Relief Advances Act. It was necessary that the accounts for advances under this arrangement should be kept individually by the municipalities borrowing the money. For this reason it is not possible at this time to give an exact figure for expenditures under this plan.

Accounts for distribution in the local improvement districts were kept by the Seed Grain Branch, Department of Municipal Affairs. The following figures have been supplied, showing the amounts and values of commodities supplied in the local improvement districts (these figures cover distribution in 76 local improvement districts):

		Value
Wheat	208,598 bus.	\$256,742.19
Oats	52,748 bus.	28,889.18
Barley	1,015 bus.	470.66
Fuel Oil	236,030 gals.	38,105.70
Lubricating Oil	9,480 gals.	7,368.33
Feed		87,619.39
		<u>\$429,195.45</u>

While no figure can be given showing the actual expenditures in organized municipalities, the Department of Municipal Affairs has furnished information regarding the amount borrowed by muni-

cipalities under guarantees arranged by this Branch. The total of these borrowings was \$967,657.66. Guarantees were arranged for 86 municipal districts. From the above figures it will be noted that the total expenditures under the guarantee arrangement would be approximately \$1,300,000.00, as in most cases the municipalities did not spend the full amount of their original borrowings.

It should also be noted that the above figures include the purchase of feed from the Department of Agriculture as shown under the "Relief" heading of Table II.

GENERAL ARRANGEMENTS

The railways granted special freight rates as in the past. The rates applied to feed, fodder, seed grain for relief purposes and to live stock moved out of the drought area for winter feeding. Charges under special tariffs amounted to two-thirds of the usual freight rates.

Local grain elevators were used as distributing agencies wherever possible, handling feed, fodder and seed grain. The grain companies involved in this arrangement advised that it would be necessary to make payment for services rendered, as they would be forced to operate elevators at many points which would otherwise be closed. It was therefore arranged that payment be made for the distribution of hay and straw in the amount of 50c per ton with the usual handling charges on grain ($\frac{1}{2}$ c per bushel for weighing off car, and the statutory charges for grain handled through elevators). It was also necessary to guarantee an amount of \$60.00 per month plus remission of one year's license fee for the operation of 20 elevators at points which were closed or being closed by the elevator companies.

Inspection of hay and straw was carried out by a special staff of inspectors under the Dominion Department of Agriculture. Inspection of grain was carried out in the usual way by the Dominion Grain Inspection Department.

Cash sales of feed from relief supplies were permitted as in the past in order to provide assistance to farmers who could not qualify for relief, and who were not in a position to ship in feed in carload quantities. This privilege was taken advantage of in some cases by applicants buying up carload shipments of relief supplies, and at some points sales of this nature resulted in a temporary shortage of feed for relief applicants. This condition was controlled as closely as possible by the fieldmen of the Relief Branch. Due to this fact there were very few losses of live-stock on the farms of applicants who qualified for assistance under the winter feed policy.

The demand for relief feed during the 1937-38 season was larger than in any previous year, owing to the extensive area in Saskatchewan which was severely affected in 1937. The complete lack of feed and grazing in this area, coupled with light crops in the rest of the Province, created an unprecedented demand for feed in Alberta. Straw from the cereal grains was baled and shipped from almost every district which had a surplus. It is estimated from reports received from the Saskatchewan Department of Agriculture that shipments from Alberta to Saskatchewan totalled approximately 65,000 tons of straw and 20,000 tons of hay.

Owing to the fact that grain market conditions were favourable during the winter of 1937-38, supplies of wheat were being moved to

terminal markets without delay. It was apparent that difficulty might arise in obtaining grain for relief seed in the spring. Arrangements were made with the Canadian Wheat Board whereby the Board purchased a reserve supply of grain on behalf of the Provincial Government. This reserve consisted of 350,000 bushels of wheat and 100,000 bushels of oats. It was estimated that the requirements of wheat would be at least 700,000 bushels, but it was thought advisable to take a chance on obtaining half the requirements from local supplies during the spring. Local supplies were made available by farmers and grain companies in larger amounts than anticipated, and a surplus was left over from Wheat Board stocks amounting to about 25% of the purchases. This surplus was disposed of at a loss, owing to a rapid fall in grain prices during the spring and summer.

THE YEAST RANCH

This ranch, situated in the Manyberries district, was leased by the Department of Agriculture to provide a convenient place for wintering live stock from nearby portions of the drought area. There was a good supply of hay and an accumulation of grazing on the ranch, which made it an ideal location for this purpose. Live stock maintained on the ranch consisted of 230 head of horses and 173 head of cattle. As the feed supply was sufficient for a much larger number, it was possible to sell 465 tons of hay, 28 tons of straw, and 1,377 bushels of oats.

SHIPMENT OF LIVE STOCK TO WINTER FEEDING AREAS

Arrangements were made in the fall of 1937 for shipment of live stock from the drought area to other parts of the Province for winter feeding. Movement of live stock under this plan was reported by the Live Stock Branch in 1937. Shipments out of the drought area in 1937 totalled 279 carloads, and 272 cars were returned in 1938 under this policy.

CROP CONDITIONS FOR 1938 AND OUTLOOK FOR SPRING OF 1939

The 1938 crop has greatly improved the situation throughout the Province with respect to agricultural relief. Crops were quite light in a small portion of the drought area and in some parts of the Peace River district. However, it appears that the usual efforts of the farmers themselves to meet such emergencies will prevent any necessity of a relief policy for winter maintenance of live stock. The provision of seed will be a problem in some districts, owing to repeated hail losses, and in some areas where it has been necessary to harvest light grain crops as feed. It appears at the time of writing that a seed relief policy will be required, although the problem will be greatly reduced as compared to the past few years.

RELIEF SETTLEMENT PLAN

This plan for the settlement of families who would otherwise be in receipt of unemployment relief has been continued under the same arrangement as outlined in the 1937 Report. There has been a marked increase in the interest shown in this plan by relief recipients as well as by municipal organizations. This is shown by the high increase in the number of placements as well as by general correspondence from interested parties. The following figures show the number of families settled each year: 1932, 51 families; 1933, 314 families; 1934, 223 families; 1935, 63 families;

1936, 32 families; 1937, 53 families; 1938, 141 families; total, 877 families (4,129 souls).

Abandonments under this plan have totalled 301, or 34.3%. In a great many cases abandonment has not been caused by failure of the settler, as will be shown by the following analysis:—Reasons for abandonment: Failure 145, obtained other employment 80, other causes 76.

Placements during 1938 were made up of applicants from the following sources: City of Calgary 37, City of Edmonton 18, other towns and municipal districts 32, unorganized territory and transients 54.

With generally improved agricultural conditions during the past two years, there appears to be a greatly improved condition among settlers who are out under this plan, and progress seems to be more satisfactory than at any time since its inception. A check-up with direct relief officials shows that 317 of the families placed were self-supporting as at October 31st, 1938.

The Advisory Board, appointed under the terms of the Dominion-Provincial Agreement, has continued to render a very valuable service in connection with the Relief Settlement Plan. A total of 45 meetings have been held during the year. This Board is comprised of representatives of the Provincial and Dominion Governments and representatives of the Canadian National and Canadian Pacific Railways.

REPORT OF THE EXTENSION SERVICE

(R. M. PUTNAM, *Director*)

The Extension Service of the Department was organized in June, and since this is the first report a few general remarks seem appropriate.

Prior to this year no agency existed in the Department to co-ordinate the extension activities of the various branches into an extension programme, nor were there adequate facilities through which extension work performed by other organizations might be correlated with the efforts of the Department to obtain the most effective results from the time and money expended. Under such circumstances, it was inevitable that certain duplication would occur, and in order to alleviate this condition it was decided to set up a service which would at once co-ordinate extension work within the Department and associate the labour of outside organizations. The function, therefore, of the Extension Service is to co-ordinate the extension programme of every branch of the Department of Agriculture, and in so far as possible to co-operate with all other extension agencies to effect the most economical and effective application of the efforts of all workers in this field.

The main purpose of the service is the distribution of information pertaining to agriculture and home economics, and its long time objective is the improvement of agricultural and rural life.

To ensure the best results from an extension programme, the formation of community organizations through which extension workers may reach the country people is most desirable. Such organizations may be simple in structure, but their general objective should be the improvement of farming and conditions of rural living, and for this purpose they should secure the best local leadership. A means of training leaders is badly needed, and the Extension Service should assist in every possible way to develop more local leaders.

The work of the Extension Service may be divided as follows:

PUBLICATIONS AND STATISTICS

The distribution of information is the main purpose of extension work. Since the Service was formed, many publications for distribution to farmers and farm women on request have been collected. It is estimated that approximately 8,000 publications were distributed during 1938. There is, however, an acute need for publications which deal with Alberta conditions, and it is expected that some progress in this respect will be made at once.

In the collection of statistical information the Service relies mainly on the data obtained by the Dominion Bureau of Statistics, to which an acknowledgment of its co-operation is gratefully tendered. Just as soon as circumstances permit it will be desirable for the Department of Agriculture to assume greater responsibility in the acquisition of statistical data, and the question of collecting statistics on a municipal basis in addition to the present method should be considered.

VISUAL INSTRUCTION

Recognizing the importance of visual instruction in all forms of education, the Department purchased three film projectors, three film strip projectors, 14 films and 49 film strips during the year. In addition to this new equipment, several film slide projectors as well as a large number of slides are on hand. This equipment is reserved for the use of Department officials, and from reports received to date it promises to be of much assistance in distributing information.

The new films and film strips were bought from the United States Department of Agriculture, and although most of them are excellent in themselves, they depict United States conditions which do not altogether apply in this Province. It appears desirable, therefore, that as soon as possible, films and film strips of Alberta conditions be prepared.

FIELD DAYS

Interest in field days increased during the past season, mainly because of improved agricultural conditions. The co-operative policy whereby the efforts of the Federal and Provincial Governments, the Faculty of Agriculture of the University of Alberta, the Soldier Settlement Board, several leading grain companies, the Canada Malting Co., the Canadian Seed Growers' Association, and the Stock Breeders' Associations, were combined whenever possible to obtain the greatest efficiency and reduce duplication. This plan is a continuation of past arrangements and is working quite well, but greater perfection could be attained if dates were set well in advance to permit full arrangements being concluded in good time.

During the summer, officials of the Department of Agriculture attended a total of 93 field days, including Junior field days and those sponsored by any of the aforementioned organizations. Speaking generally, the subject matter discussed at a field day is determined largely by the needs of the district, but a definite desire for practical information is quite apparent. The use of demonstrating material is well received, and one field day was greatly improved by using a loud speaker.

SHORT COURSES

The Short Course programme of the Department is generally conducted during the late winter months. Agricultural short courses of one or two days' duration are recognized as a phase of the District Agriculturists' winter programme. They are one means of providing information to the farmer and of permitting him to secure answers to his problems. The subject matter is varied according to the needs of the district, but usually includes the basic topics. The Short Course offers a fine opportunity to a local farm organization as one of its winter activities, and they are of particular service for the discussion of problems which are common to agriculture.

The appreciation of the Department is extended to the staff of the Agriculture Faculty of the University of Alberta, officials of the Dominion Department of Agriculture and others who assist with the short courses.

Whenever possible, a local organization is invited to act as joint sponsor with the Department of Agriculture, and in a number of cases the Short Course has become the affair of the winter. Among the most successful short courses were those held at Calgary, Edmonton, Lethbridge and Grande Prairie during the seed

fairs. In 1938 short courses were held at 14 points, and the estimated attendance is calculated at 800 persons. In the fall of 1938 the new film equipment was used with very successful results at several short courses.

SCHOOL FAIRS

The school fair programme of 1938 was somewhat larger than that of 1937. One hundred and four school fairs were planned for this year, but three were cancelled at the last moment. On the whole, the fairs were satisfactory, although the benefit derived from a few weak fairs is of doubtful significance. Some of the new centres, however, were exceptionally successful.

For purposes of administration, there are two school fair districts coinciding with the territory allotted to each Agricultural School. The Olds School of Agriculture supervised 61 school fairs, while Vermilion directed 43 fairs. Two members of the Olds staff and one of the Vermilion staff were actively engaged in school fair work for most of the summer. During May and June these supervisors covered as many schools as possible belonging to school fair centres to instruct the pupils in their various projects. For the month of May two lady instructresses assisted with this work. Besides this supervision, the Department of Agriculture provided garden seeds and other fair supplies such as entry tags, etc. The Department does not provide grants toward the prize money. The formation of the large school unit has caused some problems respecting financing.

Judging of school fairs commenced September 1st and ended September 28th. The fine weather throughout September facilitated this phase of the work, but it reduced the adult audience, which was kept busy with threshing operations. Six judging circuits were operated this year, the judges being drawn from the Schools of Agriculture for grains, vegetables, flowers and household economics. The District Agriculturists in their respective districts judged the live stock and poultry and the school inspectors judged the school work. There has been a remarkable increase in the school work classes, largely because of the new course of studies which stresses projects. Live stock exhibits remain small, due to lack of financial support for prizes.

The boy and girl obtaining the highest number of points at each school fair in September are each awarded a scholarship which permits them to attend the School Fair Short Course at one of the Schools of Agriculture in the following July. All transportation expenses as well as board and room are provided by the Department. This week's training and directed recreation is of immense value to the young people. There were 102 in attendance at Olds this year and 76 at Vermilion.

School fairs were active at the following points in 1938:

Northern District—Fultonvale, Ardrossan, Clover Bar, Sturgeon, Ministik Lake, Boyle, Dapp, Busby, Barrhead, Sangudo, Mayerthorpe, Tomahawk, Round Hill, Camrose, Tofield, Rosalind, Treaty Hill, Viking, Marwayne, Islay, Myrnam, Beaver Crossing, Ashmont, Vilna, Bellis, Smoky Lake, Grande Prairie, Valhalla, Sexsmith, Bluehawk, Donnelly, Kinuso, Waskatenau, Thorhild, Cadogan, Amisk, Sedgewick, Wavy Lake, Daysland, Greenlawn, Kitscoty, Clandonald, Vermilion.

Southern District—Caroline, Olds, Carbon, Munson, Delia, Clive, Calmar, Thorsby, Leduc, Wetaskiwin, Millet, Pendryl, Leslieville, Eckville, Stettler, Castor, Oyen, Naco and Sedalia, Kelvindale, Spring Water, Lacombe, De Winton, Didsbury East, Crossfield, Cochrane, Sundre, Innisfail, Red Deer, Red Deer Lake, Langdon and Strathmore, Gleichen, Standard, Duchess, Tilley, Irvine, Coalhurst, Iron Springs, Nobleford, Thelma, Whitla and Winnifred, Coutts, Allerston, Warner, Coaldale, Stirling, Vauxhall, Magrath, Lethbridge, Raymond, Purple Springs, Grassy Lake, Jefferson, Hillspring, Twin Butte, Cardston, Spring Coulee, Mountain View, Manyberries, Etzikom, Foremost.

REPORT OF THE DIRECTOR OF JUNIOR WORK

(W. J. ELLIOTT)

BOYS' AND GIRLS' CLUBS

The Department of Agriculture has for many years fostered junior youth work as represented by grain and live stock clubs. There is a growing impression that a great deal of the improvement along agricultural lines may perhaps be more quickly and more thoroughly introduced through the medium of junior clubs than by any other means. Indeed one has only to visit, not one but scores of districts in the Province where clubs have been in active operation for a number of years, to see the clear evidences of a revolution in agricultural methods due to the work of the clubs. When Alberta decided to change from a Province of many swine breeds to a single suitable breed of bacon hog, the junior clubs of the Province played a very decided part in that change; and all over the Province the idea of clean, pure seed grain is synonymous in the minds of the juniors with clean, weed free, well cultivated fields.

The District Agriculturists are largely responsible for the organization, development and success of junior clubs. In fact, it would be impossible to carry them on without the care, persistent work and personality of our district men, and in this respect we believe that our men serving in this capacity are second to none in Canada.

During the past year grain clubs have developed by leaps and bounds, and in the face of world conditions we believe that for 1939 we ought to extend our live stock groups rather than further increase the grain clubs.

The Agricultural Conference at Winnipeg, we think, emphasized the fact that during recent years the extension of grain growing areas in Canada has increased, and with European nations endeavouring to become self-sufficient, as far as bread grains are concerned, there seems to be an over-production in the world. For this reason we should possibly give more stress to the live stock clubs for 1939. The field and the outlook for swine development would appear to offer probably as great a promise as any, although with the large increase in bred sows in 1939, due to cheap grain, we are apprehensive of prices for next fall. In the dairy field there is abundant room for improvement, not so much along the lines of more production as in the improvement in the production of the individual animals. Statistics indicate that in all Canada the average milk production per cow is about 4,360 pounds of milk, or approximately 160 pounds of butter fat. In Alberta, with many farmers living on the fringe of range conditions, we doubt if our average milk production is as high as the above. Such a production does not pay for feed and care, and if we could raise the Provincial average of our cows to double the present flow, we would go a long way to improving the dairy industry from the standpoint of economical production.

In this connection, we are all aware that a great many extension activities from many Government departments find their way to the district men, and it is difficult to see how the quality of club

work may be maintained, to say nothing of extending the service under present circumstances and with the present force.

Great credit is due these men for the work that has been done, and is being done, for some 3,000 boys and girls are carrying on projects at the present time, and Alberta has held her own, generally speaking, where inter-Provincial contests are held, though in 1938 she has not shown quite as good a record as in the previous years. In 1937 Alberta, with three teams entered, took two firsts and a second at Toronto, while in 1938, with four teams entered, we secured two seconds, a fourth and a fifth.

It is possible that we might do something in the Province in the way of developing local leadership from among the graduates of the Schools of Agriculture, or from among those club members who have won Provincial standing in their club activities.

There are many districts asking for new or additional clubs, but little can be done unless local leadership, or some other method, may be found to carry on such club extension.

JUNIOR LIVE STOCK CLUBS

Beef Clubs.—Some very excellent work was carried out in the beef calf section. Eleven clubs brought out finished calves that were the equal of anything shown heretofore, and there is no question of a doubt that these clubs are doing much for the future of live stock in the Province by training and developing a group of young men and women who have a very good general idea of the science of feeding and the care of such animals.

Dairy Clubs.—Last year there were only two dairy clubs in Alberta, and special stress has been put upon this feature of our work during the past season. This fall ten clubs are reported by the District Agriculturists. Five of these are actively functioning, and all five are supplied with dairy calves. In the case of Graminia, 17 calves were supplied by the producers in the Edmonton milk shed. Recently 26 Holstein calves were also gathered and sent to a new club at Camrose. Three of the latter are registered heifers, and a fourth a young bull calf from high producing registered stock. A beginning was made by shipping eight heifer calves for another club at Smoky Lake, but the club members have preferred to secure the balance of their calves in the spring.

Swine Clubs.—These have increased slightly over last year, and many are doing excellent work. These clubs are not only steadily improving the quality of Alberta's hogs as shown on the rail, but are proving to be a source for much of the improved stock that farmers are using. This has been particularly true with the high grain prices of last year and the consequent decline in hogs. Many club groups retained their well bred stock, and as a consequence were able to satisfy the demands from many neighbours for breeding stock of the right type.

Poultry Clubs.—These clubs are somewhat new, although Edmonton and Calgary have held judging classes for juniors at their poultry shows for a number of years. Edmonton has for some time had north and south side junior poultry clubs, and both these have competed at the fall shows. The winning teams recently also competed successfully at Calgary. This is the beginning of what we hope may lead to the organization of many more such clubs in the Province. The above clubs are under the direction of the Provincial Poultry Associations. As a matter of interest, the value of the

Alberta poultry products sold last year was approximately \$6,000,000. The industry is therefore one that merits the support of junior clubs.

Agricultural Camps.—An innovation was started in Alberta a few years ago when agricultural camps were established by agricultural fair associations in co-operation with the Dominion and Provincial Departments of Agriculture. Farm boys and girls were asked to join these camps, which were carefully organized to give the youth not only a few days of real information, but by having them as guests of the fair association, they would have the privilege of enjoying several holidays attending the fair. Dormitories are established under careful supervision, and instructors from the Department of Agriculture give lectures and demonstrations both in agriculture and home science. There is the decided educational value of holding such camps right on the fair grounds, where the best of live stock and other exhibits are to be seen.

Alberta holds seven of these camps, two at the two "A" class fairs and five at the "B" class fairs. Some of these camps have both boys and girls, and others have only taken boys so far.

The fairs held last year, with their attendance of boys and girls, were as follows:

Fair	Boys Attending	Girls Attending	Total
Edmonton	37	20	57
Calgary	50		50
Camrose	44	31	75
Vermilion	95	62	157
Vegreville	40		40
Lethbridge	78		78
Red Deer	33	17	50
Totals	377	130	502

Live Stock Clubs.—The number of live stock clubs during 1938 was 55, as compared with 45 in 1937, though the number in each classification changed slightly, as is shown below.

A classification of the various clubs with the membership of each is as follows:

SWINE CLUBS AND MEMBERSHIPS

Name of Club	No. of Members	Name of Club	No. of Members
Lethbridge	20	Taber	14
Cardston	17	Swalwell	15
Scales	18	Coronation	15
Manfred	16	Hay Lakes	18
Duhamel	12	Liberty	17
Smoky Lake	25	Bellis	34
Vilna	40	Egremont	19
Spedden	24	Radway	22
Marwayne	31	Dina McLaughlin	14
Colinton	14	Boyle	12
Wembley	12	Beaverlodge	14
Spirit River	13	Berwyn	15
Ashmont	18	St. Paul	15
Pathfinder	19	Derwent	25
Myrnam	27	Northern Valley	31
Liberty	15	Pioneer	21
Prosperity	10	Progressive	13
Total Clubs, 34; Membership, 655			

BEEF CLUBS AND MEMBERSHIP

Lethbridge	25	Olds	23
Grainger	14	Crossfield	23
Simons Valley	28	Red Deer	41
Lacombe	39	St. Lina	19
North Edmonton	29	Bellis	27
Vilna	24		
Total Clubs, 11; Membership, 292.			

DAIRY CLUBS AND MEMBERSHIP

Lethbridge	30	Didsbury	20
Springbank	28	Westmount	11
Vilna	16	Bellis	17
Wetaskiwin	10	Graminia	21
Rainier	22	Camrose	20
Total Clubs, 10; Membership, 205.			

SUMMARY OF JUNIOR CLUBS AND MEMBERSHIP

	No. of Clubs		Membership in 1938
	1937	1938	
Swine	31	34	655
Beef	12	11	292
Dairy	2	10	205
Totals	45	55	1,152

The membership of live stock clubs has therefore increased from 824 in 1937 to 1,152 in 1938, an actual increase of 228, which is largely accounted for in the increase in dairy calf clubs.

Junior Grain Clubs.—In 1938 there was an increase in the number of grain clubs in the Province. This increase was due to the placing of more wheat clubs in the area of the Province where farmers wished to change over from Garnet to some other variety.

Grain clubs in 1938 were as follows: Wheat 71, oats 15, barley 8, flax 1, potatoes 2; total, 97. The total membership was 1,782.

The assistance given by sponsoring organizations is hereby acknowledged. A great deal of the success of grain clubs is due to the support given by club sponsors. These organizations are as follows:

Wheat Clubs—Alberta Wheat Pool, Calgary.

Oat Clubs—United Grain Growers' Limited, Calgary.

Barley Clubs—Canada Malting Company, Calgary.

Flax Clubs—Alberta Linseed Oil Company, Medicine Hat.

Owing to the favourable season and the careful work done by club members in multiplying seed, there is a large supply of pure seed available for purchase in every district where a junior club is in operation.

National Judging Competition.—After Provincial elimination contests at Calgary, Lethbridge, Lacombe, Peace River and Edmonton, the winning teams gathered at the University Farm, Edmonton, for the finals on October 26th, when about 14 teams from Lethbridge, Red Deer, North Edmonton and St. Lina; six grain teams from Grande Prairie, Bon Accord, Andrew, Donald, Airdrie and Foremost; three swine teams from Conjuring Creek, Erskine and Cardston; and one dairy team from Lethbridge, competed.

After a rather strenuous day, all of the competing team gathered in the Parliament Buildings, where the Hon. D. B. Mullen spoke to them of the importance of club work, and Deputy Minister J. R. Sweeney announced the winners, who would represent the Province at the Royal Show at Toronto. The winners were:

Beef—Howard Henderson and Gordon Towers, Red Deer.

Dairy—Joan Webb and Elaine Hamilton, Lethbridge.

Swine—Francis Blondheim and Lloyd Cook, Conjuring Creek.

Grain—Clifford Tebb and Dick Clayton, Airdrie.

On November 10th the eight Alberta champions boarded the C.N.R. train at Edmonton bound for the Royal Show at Toronto. They found eight contestants from B.C. already aboard, and later picked up eight from Saskatchewan and eight from Manitoba. All were bound for Toronto.

At Toronto, the Alberta grain team came a very close second to Manitoba, where only 1.3 points separated the two. In beef judging, Alberta took second, in swine fourth, and in dairy sixth.

REPORT ON THE DOMINION-PROVINCIAL YOUTH TRAINING PLAN

(W. J. ELLIOTT, *Supervisor*)

Under this scheme the Department of Agriculture has two distinct fields of operation:

1. The offering of training to youth under various agricultural programmes, and
2. A definite co-operative programme with the Extension Department of the University of Alberta.

Under the first division the Department is offering training to necessitous youth, who are not gainfully employed, along the following lines:

1. Training in Schools of Agriculture to 15 necessitous boys from the drought area, 15 necessitous girls from the drought area.
2. A second year's course at the Schools of Agriculture for 10 boys, standing highest in last year's course.
3. Training 60 necessitous boys from towns, cities and villages on poultry, general or fur farms, also in creameries.
4. Training 60 necessitous farmers' sons from the drought area in the wooded soil areas. These may be partially developed farms where the boys, who have had farm experience, may secure the actual experience in clearing, brushing and breaking such lands, in the hope that they might find land and homes in these areas where land may be cheaper and more to their liking.
5. To meet the Provincial regulations concerning the grading of both poultry and eggs, classes were conducted in Edmonton and Calgary to train young men for this particular work.
6. Training was also offered to a limited number of boys who were graduates of the Agricultural Schools to train in up-to-date creameries with a view to finding an opportunity in this field.

In the case of trainees accepted for farm work, whether it be fur, poultry or general farming, or for training in wooded areas, the period of training may continue for twelve months, and during this period the trainee will receive his board and a small monthly allowance from the joint Governments. The trainer, in return for the training and instruction given, will also receive a small monthly allowance for a period not in excess of six months.

Under the second division, the Department of Agriculture and Department of Extension of the University of Alberta are co-operating to conduct approximately 32 Short Courses for rural young men and women. These courses are scattered at various points throughout the Province and, as far as possible, are established where there appears to be the most need. They cover practical agriculture, household science, recreational training, and community leadership. These are free to all rural young men and women between the ages of 18 and 30, who are either unemployed or not gainfully employed.

The schools are organized as a co-operative venture between the University, the Governments and the communities concerned.

Many of the students living within a short distance of the centre, drive in to attend the lectures and demonstrations, but a considerable number come from such wide areas that this is impossible, and for these, dormitories are established where the young people are under proper supervision.

In order to keep the cost of this training at a minimum, such organizations as churches, city councils and other community enterprises are freely providing buildings for class rooms, dining halls and dormitories, and in addition to this, students are allowed to contribute such farm produce as may be used in the dining room to assist in covering the cost of their board and room.

Each school is designed to handle 100 students, but many of them are registering considerably over this number. They seem to be striking a responsive chord among the young people, as they give them an incentive to go on further with their education, and incidentally assist them along the lines of community leadership.

REPORT OF THE WOMEN'S BUREAU

(W. J. ELLIOTT, *Supervisor*)

The programme for women's organizations followed much the same course as was followed in 1937, by conducting a series of demonstrations and lectures throughout the Province. The lady teachers from the Schools of Agriculture were used as far as possible, but there has been such a number of requests for meetings that extra instructors were secured and, even with these extra meetings, there were 50 points that could not possibly be reached.

During 1937, 72 demonstration meetings were held, while during 1938 these increased to 129, an increase of 69%, and as stated above, there were approximately 50 points that could not be reached because instructors were not available.

There is no question that during these depressed years, with lessened budgets for household necessities, there is a desire on the part of women's organizations of all kinds, and particularly those in the outlying areas, for more help and assistance in the kitchen, with the sewing and garment making, and also with health matters pertaining to the children and the home. One has only to read the many letters from the secretaries of the organizations thanking the Department of Agriculture for the wonderful help that came through the instructors in a better understanding of food values, in the many hints for garment making for both old and young, and particularly the talks on health matters as they affect the children and the homes of Alberta.

Then there are the 'teen aged girls of rural Alberta, of which there are 35,000 who are not in schools of any kind. This is a field that has never been seriously undertaken in Alberta. These are the rural mothers of tomorrow, and they offer a tremendous field for frank instruction and useful helps in home building.

Last summer the following four projects were offered, and organizations were allowed to select what would suit best the needs of the community:

The projects were as follows:

Project No. 1—FOODS AND NUTRITION—One Day:

1. The Preservation of Fruits, Vegetables and Meats.
2. Supper Dishes and Salads.
3. Newer Simple Desserts.
4. The Preparation and Cooking of Tough Cuts of Meat.
5. Sandwiches, Beverages and Party Ideas.

Note: Any two choices may be taken from the above project for a two-day course.

Project No. 2—CLOTHING:

1. Dress finishes and Plain Sewing—Two Days.
2. Advanced Dressmaking—Three Days.
3. Tailored Garments—Three Days.

Project No. 3—MISCELLANEOUS SELECTION—One Day:

1. Newer ideas in Home Decorating and Furnishing.
2. Dry Cleaning and Laundry Hints.
3. Chenille Flower Making.
4. Cosmetics and Beauty Preparations at Small Cost.

Note: Any two choices may be taken from the above project for a two-day course.

Project No. 4—GLOVE MAKING—Two Days.

In addition to the above there was a request from the drought areas for problems that might be undertaken by farm women with a view to helping, even in a small way, the home income. Therefore, special projects were offered, and instructors who were competent to handle same were given this particular work. We shall

not give here the entire list of projects offered, but only a suggested few to indicate the nature of the rehabilitation projects:

1. Bed Spreads Tufted, Quilting.
2. Chenille Flower Making.
3. Glove Making.
4. Knitting—Knitting machines; certain companies send them out.
5. Rug Making—(a) Hooking—rags, wool; (b) tying on frame.
6. Needle Point.
7. Canning—Pressure Cookers; Vegetables, Meats and Fruits; putting up Pickles and Jams in small attractive jars; Marmalade.
8. Candy Making—making of boxes for the candy.
9. Cosmetics—(a) Cleansing Cream; (b) Hand Lotions; (c) Bath Salts; (d) Shampoo.
10. Turkey and Chicken Raising.
11. Favours.
12. Thrift Problems.
13. Horticulture.
14. Interior Decorating.
15. Weaving.

The following is a list of the meetings held by each instructor:

Meetings held by Miss McCaig:

May 16, 17—Hughenden.
May 18, 19—Strome.
May 20, 21—Strome.
May 23 to 25—Camrose.
May 26—Alliance.
May 30—Science Mound.
May 31—Bashaw.
June 7—Busby.
June 9, 10—Peace River.
June 11—Grimshaw.
June 13, 14—Fairview.
June 16, 17—High Prairie.
June 22—Fultonvale.
June 23—Clearview.
June 24—Poplar Ridge.

June 25—Sundre.
Aug. 9—Torrington.
Aug. 10—Three Hills.
Aug. 11—Westcott.
Aug. 12—Mountain View.
Aug. 16—Shepherd.
Aug. 15—Calgary.
Aug. 17, 18—Dalemead.
Aug. 19, 20—Redcliff.
Aug. 22, 23—Gleichen.
Aug. 25—Priddis.
Aug. 26—Black Diamond.
Aug. 29—Aldersyde.
Aug. 30—Glendale.

Meetings held by Miss Switzer:

May 23—High Prairie.
May 25, 26, 27—Dinton.
May 28—Champion.
May 30—Coaldale.
May 31—Optimistic.
June 2, 3—Spring Coulee.
June 6, 7—Vauxhall.
June 8, 9—Badger Lake.
June 10, 11—Sundial.
June 13—Picture Butte.
June 15—New Dayton.
June 16—Warner.
June 17—Milk River.
June 21—North Red Deer.
June 22—Lakeside.
June 24, 25, 27—Wooddale.
June 29, 30—Bonnie Glen.

July 4, 5, 6—Millet.
July 8, 9—Nevis.
July 12, 13—Erskine.
July 15, 16—Coronation.
July 18, 19—Penhold.
Aug. 9—Eagle Valley.
Aug. 11, 12—Hillsdown Valley.
Aug. 16, 17—Myrnam.
Aug. 18, 19—Marwayne.
Aug. 23, 24—Condor.
Aug. 26—Scollard.
Aug. 27, 29—Morrin.
Aug. 30, 31, Sept. 1, 2, 3—Youngstown.
Sept. 6, 7, 8—Stoneyhurst.
Sept. 10, 12, 13, 14—Acadia Valley.
Sept. 16, 17, 19, 20, 21—Bindloss.

Meetings held by Miss Gordon:

June 2, 3—Ministic.
June 6—Winterburn.
June 8, 9—Thorhild.

June 13, 14—Boyle.
June 16—Viking.
June 17—Bruce.

Meetings held by Miss Knox:

June 23, 24—Woodland.
June 25, 27—Rocky Mountain House.
June 28—Leslieville.
June 30—Baintree.
July 2—Horseshoe Canyon.
July 4—Munson.

July 5, 6, 7—Lanfine.
July 9, 11, 12—Wild Rose.
July 14, 15, 16—Sibbald.
July 18—Hemaruka.
July 20—Lamont.
July 22, 23—Westlock.

Meetings held by Miss Hart:

June 20—Alida.
June 21—E. Vegreville.
June 22—Minburn.
June 23—Ramsay.
June 24—Birch Creek.
June 25—Happy Centre.
June 27, 28—Vermilion.
June 30—Tomahawk.
July 4—Bon Accord.
July 6—Millet.

July 7—Chatelaine.
July 8—Alix.
July 9—Warden.
July 12—Loyalist.
July 13—Gadsby.
July 14, 15—Fleet.
July 16—Ridgewood.
July 18—Sunnybrook.
July 19—Siebertville.
July 20—Turnip Lake.

Additional meetings held by Miss Knox:

Aug. 15—Poplar Lake.
Aug. 16—Jasper.
Aug. 17—Edson.
Aug. 18—Stony Plain.
Aug. 19—Fort Saskatchewan.
Aug. 23—Pibroch.
Aug. 24—Sunnybend.

Aug. 26—Conjuring Creek.
Aug. 27—Millet.
Aug. 30—Sylvan Lake.
Aug. 31—Innisfail.
Sept. 1—Crossfield.
Sept. 2—Carstairs.

Summary of meetings held at various points:

	Meetings	Total Attendance	Average
Miss McCaig—			
May 16-June 25	18	450	25
Aug. 9-Aug. 30	13	321	25
Miss Switzer—			
May 23-July 19; July 28-Oct. 10	40	729	18.2
Miss Gordon—June 2-June 17	8	192	24
Miss Hart—June 20-July 20	19	485	25.6
Miss Knox—June 20-July 23	31	593	20.2
	<u>129</u>	<u>2,770</u>	<u>23</u>

Thus in 1937 the Department of Agriculture held 72 meetings, with a total attendance of 1,858, while in 1938, 129 meetings were held with an aggregate attendance of 2,770. This is an increase of 69% in meetings and practically a 50% increase in attendance. When we remember that there were 50 meetings called for that could not be filled, it indicates clearly that the women's extension programme is doing work that is appreciated by the women of the Province.

REPORTS OF THE DISTRICT AGRICULTURISTS, 1938

CARDSTON DISTRICT (CHAS. O. ASPLUND)

GENERAL CONDITIONS

Precipitation records for Cardston:

January	70 inches	August	1.10 inches
February	.74 "	September	.66 "
March	1.44 "	October	1.00 "
April	.90 "	November	.90 "
May	4.78 "	December	.30 "
June	2.70 "		
July	1.78 "	Total	17.00 inches

This is very similar to the total precipitation of 17.68 inches for 1937. In May, June and July, the critical months of growth, the 1938 precipitation was 9.26 inches as compared to 9.50 inches in 1937. There existed, however, this advantageous difference in 1938, that is, that the May precipitation was very much higher than in the former year, and there was no consequent suffering from lack of moisture in early June. Crop conditions have been so favourable in the Cardston area during the past two years that it would seem safe to conclude that a rainfall totalling in the neighbourhood of ten inches during May, June and July, and fairly well distributed over these months, results in almost optimum moisture conditions for cereal production.

The above moisture conditions were more widely apparent in the district than for some years, and consequently the area of good crops was not nearly so restricted. This year the area of normal to bumper crops moved eastward to almost the eastern edge of my district. I think it is a conservative estimate that the area served by this office grew more wheat in 1938 than in any previous year, the acreage being increased in nearly every section of the district and the yield in most.

The difference in the price situation has resulted in a reduced income for the better sections, even though the yield was slightly larger, but in the poorer sections where drought or semi-drought conditions prevailed in 1937, income was substantially increased and a much better condition is apparent.

The spring was very backward. Wheat seeding was not completed until June 1st. Fortunately, however, the frost-free period was extended until late in October, which made it possible for all crops to ripen and be harvested without damage. The wheat was of excellent quality, weighing heavy and grading No. 1 hard and No. 1 Northern almost without exception.

HAIL LOSSES

Hail losses were rather severe in sections of the district, although no total losses were sustained and early affected crops made remarkable recovery. In all about 20,000 acres were damaged.

INSECT DAMAGE

Insect damage was held to a minimum by careful campaigns of control. In the major part of the district grasshoppers are past the epidemic stage, at least for the time being. A bad outbreak of sugar-beet and web-worm occurred, but losses were not severe as control methods were quickly adopted.

Two insects now threaten to become serious menaces to our grain crop, i.e., Say's Grain Bug and Wheat Stem Saw-fly. The former has no doubt been encouraged by trash covered summer-fallow. The problem of these insects will have to be met during the coming seasons.

WIND EROSION

No wind erosion of a serious character occurred during the cropping season of the year, but the dry, open winter, seconded by prevailing high west winds, has resulted in some drifting during the winter months. These conditions, however, are proof of the efficacy of various control methods that have been adopted because, had these climatic conditions prevailed a few years ago, drifting would have been much more severe.

LIVE STOCK

Except for a severe April storm which resulted in some heavy losses, especially in the eastern section, conditions for live stock during the year have been very good.

Live stock went into the present winter in excellent condition, and this fact, coupled with the open weather and abundant supplies of cheap feed, has resulted in losses being practically nil to date.

SEED AND FEED RELIEF

Perhaps the happiest condition we have known is that Agricultural Relief has not been necessary in this district during the past season. Collections on old accounts have been very good, and thus from the relief angle this district is now almost even with the board.

IRRIGATION

A normal snowfall in the mountains, coupled with a liberal and fairly well distributed rainfall, resulted in irrigation water sufficient for the needs of the various districts. A heavy crop of hay in these sections, of none too good quality, has resulted in the farmers turning to live stock as a means of disposing of this crop as outside markets have small requirements. It is becoming more and more apparent that live stock feeding and, in special favoured areas, dairying must be the basis of the agricultural economy of these districts.

LIVE STOCK IMPROVEMENT

Bull Exchange Policy.—Under this scheme we exchanged 17 bulls. It is apparent that an increased demand for this service will be made during the coming year.

Rams.—We purchased and distributed amongst farmers and ranchers 30 head of purebred rams, mostly of the Down breeds.

Boars.—Several pure-bred boars have been secured and distributed amongst farmers of the district. There is an increasing demand for the services of this office in connection with this work.

JUNIOR WORK

Grain Clubs 2, membership 36; Swine Club 1, membership 18. The Cardston Junior Swine Club team was runner-up in the

Provincial competition, and the Foremost grain team also competed for Provincial honours at Edmonton. It is also interesting to note that the Foremost Club was awarded premier honours in the standing grain competition, a winning that has never come to southern Alberta before.

Four members of the Lethbridge Junior Calf Club were located in my district, and these were given supervision from this office.

SCHOOL FAIRS

Owing to other work, I was unable to assist with the judging at the fairs in my district. These, however, are on a sound basis, and more were operated than for some years past.

LETHBRIDGE JUNIOR CAMP

I again assisted Mr. Campbell in the conduct of this very successful Junior camp.

LIVE STOCK FEEDING

The major part of the time of this office has been taken up with the direction of the affairs of the feeder associations of this district. It was found necessary to divide the association in order to obtain more money. We were finally successful in launching a new association with headquarters at Lethbridge. This work seems to us to be of major importance, and it is greatly appreciated by those whom it affects. That it is fundamental in the agricultural set-up of our irrigated sections there can be little doubt. Indications are that there will be a demand for at least one more association in my district next year.

The marketing situation was extremely serious in the spring of 1938. Live stock went in at relatively high prices and feed costs were inordinately high. Although at the first of January last year the lamb situation looked almost hopeless, it improved to such an extent that the feeders showed a fair profit. In the case of cattle only one class of these were successful in netting a return sufficient to pay their way; these were light medium quality cattle for domestic use. The good heavy cattle that required to go to the United States or Great Britain sustained the most serious loss. While some of our feeders lost as much as \$10.00 per head, we were able to clean up all association liabilities and keep our business in a sound position.

In the autumn months we have again filled our feed lots with good cattle and lambs. The situation is a great deal more hopeful from every angle than at this time last year.

Red Label Feeders' Association.

Cattle on feed, 1,800; sheep on feed, 5,000; total cost of these animals, \$98,500.

Comparison of Figures.—Cost of live stock per lb.: Steers, 1938—4½, 1937—5¼, difference ¾c; cows, 1938—2½, 1937—3¼, difference ¾c; lambs, 1938—5¾, 1937—6, difference ¼c.

While it is too early to compare selling prices to advantage, we may add that lambs are now selling for approximately one cent per pound better than a year ago and cattle look from ½c to ¾c better. This latter advantage is due mainly to the decreased tariff to the United States.

The feeder this year is also greatly assisted by low feed costs and excellent weather conditions.

General Feeding.

Including the Red Label cattle listed above, the following figures indicate the present status of feeding in this district. While these figures are not absolutely accurate, they are very close approximations: Cattle on feed, 6,000; sheep and lambs on feed, 32,000.

DAIRYING

The local creamery and cheese factory have manufactured a considerably increased amount of product. These increases are largely chargeable to improved pasture and winter feed conditions rather than any increase in dairy cattle. The outlook is not hopeful from a marketing standpoint. Any campaign for increased production in this line is hardly tenable until something is done about marketing conditions.

Butter manufactured 180,000 lbs., increase of 40,000 lbs.; cheese manufactured 99,000 lbs., increase of 20,000 lbs.

Butter fat prices have average between 4 and 5 cents under those of last year. The present difference is approximately 10c.

HOGS

A considerably increased number of sows were bred for spring farrowing, and with normal farrowing conditions there will be a large increase in hogs in this district. A condition noted, which is directly traceable to an abundance of feed grain, is the practical elimination of the hog of feeder and butcher weights from local marketings.

SHEEP.

Feeder lamb prices were again good. Owing to feed conditions, quite a number of ewe lambs were retained for replacement purposes and to augment existing flocks. There will be at least a 10% increase in the number of ewes in this district over a year ago. Feeder lambs were heavier than normal. In the eastern section some spear grass trouble developed, but it was not of a very serious nature.

POULTRY

Chickens are at a very low ebb in this district. Not enough eggs are being produced to supply local demand. There are very few of what could be called professional poultry men, and the farm flocks are largely in a sad state.

On the other hand turkeys are receiving more attention, and while numbers are not increasing, the quality of the product is improving.

SPECIAL CROPS

Potatoes.—These were a normal crop in this district.

Sugar Beets.—Following are comparative figures for the years 1937 and 1938:

	1937	1938
Total acres harvested	19,829	19,593
Total tonnage	235,480	252,749
Average per acre yield, tons	11.87	12.89
Sugar recovered per ton of beets, lbs.	321.18	313.00 (approx.)
Average Sugar Content	18.16%	17.96%

The payments on the 1937 crop finally amounted to \$6.34 per ton. Wholesale sugar prices, except for a drop of 10c per cwt. during the summer of 1938, remained substantially the same. Since the beet price is based entirely on the selling price of sugar (the grower receiving half the net selling price of the sugar manufactured

from his beets), the final price per ton of beets will be somewhat below that of last year unless sugar prices strengthen, owing, of course, to the lower recovery of sugar which is directly related to the sugar content. This reduced price will, however, be partially offset by the increased yield. Altogether, the year has been one of the most successful for the sugar beet farmer.

LAND PREPARATION AND CONDITION

Observation would indicate a slight reduction in summer-fallowed acreage and, owing to press of harvest and the long open fall, fallows were generally not as clean as the year before. As there has been little snow, and until recently little frost, coupled with high winds, it is anticipated that the moisture condition of fallow as well as stubble is not as favourable as last year.

HORSES

There has been a distinct development of power farming in all sections of the district with a consequent reduction in the number of horses required for farm work. Horse breeding, however, received some impetus from sales made in Saskatchewan, British Columbia and more especially the eastern provinces. The farm chunk of from 1,300 to 1,400 pounds is in demand for agricultural purposes in Saskatchewan and Ontario, while heavy horses of good quality move readily to the lumbering areas. The general quality of horses produced in this area is good, the predominant breeds being Percherons and Belgians.

Encephalomyelitis touched in all parts of the district, but losses were not extreme.

YOUTH TRAINING

Our school has already been held in this district at Raymond. The attendance was satisfactory. I assisted in conducting the school. Three more schools are projected for the spring months.

LETHBRIDGE DISTRICT

(A. A. CAMPBELL)

Precipitation figures for 1938 as recorded at the Dominion Experimental Farm, Lethbridge, were as follows:

January	.91 inches	August	1.72 inches
February	.80 "	September	.81 "
March	1.85 "	October	.96 "
April	.88 "	November	1.93 "
May	3.21 "	December	.22 "
June	1.16 "		
July	1.28 "	Total	15.73 inches

which is .06 inches over a 37-year average of 15.67 inches. The precipitation during the growing months of May, June and July totalled 5.65 inches, or 2.83 inches less than during the same period of the preceding year.

A comparatively open winter was experienced, with light snow-fall. There was a fair amount of subsoil moisture available, and spring rains to ensure good germination of crops which, combined with a generally cool temperature and lack of hot winds, ensured a most satisfactory yield of grain.

Excellent weather prevailed during the harvesting season, and the longest frost free period in the history of the district was

recorded. A heavy, wet snowfall to the depth of 16 inches occurred on November 10th, followed several weeks later with an additional 7 inches, thus increasing reserve moisture content of soil for the ensuing growing season.

The third largest wheat crop in the history of what is known as the Lethbridge Railway Division was harvested in 1938, estimated at 44,000,000 bushels; the peak year being 1928, when 48,000,000 bushels were actually marketed. Estimated yield per sown acre was as follows:

Spring Wheat	22 bushels
Oats	40 "
Barley	32 "
Fall Rye	12 "
Flax	14 "

The supply of irrigation water to farmers in the various irrigation projects was generally satisfactory, and some exceptionally high yields were obtained, also good averages.

Grazing conditions were the best in years. Native grasses made a remarkable come-back with heavy seed production. Much of this seed germinated during the early fall and made several inches of growth before freeze-up occurred. Over large areas, native grass went into winter over a foot in height.

LIVE STOCK

Comparative shipments of live stock from the Lethbridge Stock Yards were as follows:

	1937	1938		
Horses	1,558	2,653	Increase	1,095
Cattle	15,605	10,567	Decrease	5,038
Sheep	14,270	17,214	Increase	2,944
Hogs	46,041	30,175	Decrease	15,866

Horses.

There is a fair percentage of real good draft stallions being used in the district, Percheron and Belgians predominating; also an increase in number of mares bred.

A satisfactory horse sale was held early in March with prices much the same as were obtained the year previous for medium sized horses that could have been better conditioned. A 70% increase in shipments from local yards was noticed.

Equire encephalomyelitis took a heavy toll of horses in some areas.

Cattle.

Subsequent to heavy liquidation of cattle by ranchers during the feed shortage of two years ago, shipments of cattle this season showed a 33% decrease in numbers. A strong demand by local feeders and United States buyers for feeder cattle developed, and soon cleaned up all offerings. Prices on steers ranged from \$4.50 to \$4.75 pr hundred weight. Due to the abundant supplies of feed, considerable re-stocking of ranges was practised. An estimated 4,000 head of cattle are in feed lots on the Lethbridge Northern Irrigation Project in close proximity to the beet pulp supplies at the sugar factory located at Picture Butte. Beef cattle exhibited at the Toronto Royal by local live stock men again made good showing, the exhibitors being the C.P.R. Farm at Coaldale and Mr. C. R. Daniel, of Lethbridge.

The operation of a new cheese factory at Coaldale has proved very successful and of much benefit to the patrons. An excellent

product is being manufactured and meeting with ready sale. The cow population has been practically doubled in one year.

There has also been a 10% increase in the numbers of dairy cattle on the farms of dairymen who supply milk to the City of Lethbridge. Sales of milk and surplus supply are proportionately higher.

Present price is \$2.20 per hundred weight for city sweet milk and 32c per pound butterfat for surplus milk.

Sheep.

The lamb crop was above average in point of numbers, and feeder lambs came off ranges at higher weights. Lamb prices would average about \$5.85 per hundred weight. Two large bands were sold on account of lack of range. In addition to the brisk demand for feeder lambs, breeding stock was keenly sought. Young ewes were bought for \$7.00 per head, and five and six-year-old ewes brought as high as \$5.00 per head. Wool prices proved rather disappointing on a heavy clip. At the start of the 1938 feeding season fully 30,000 lambs were placed in feed lots. Sales of fat lambs at the end of the year were on a \$7.25 per hundred weight basis.

Swine.

There was a 35% decrease in the number of hogs shipped as compared to shipments during 1937, and over a 50% decrease as compared to 1936 shipments. The quality of hogs has been maintained, with very small runs of feeder hogs. There is an estimated 30% increase in numbers of sows bred.

Poultry.

The poultry industry has remained steady. A good demand for baby chicks existed, and eggs and poultry brought satisfactory prices.

Turkeys, geese and ducks remained about constant in numbers. An improvement in the quality of turkey bands was easily noticeable. Blood testing results were disappointing as compared to the progress which was made during the previous years.

FIELD CROP IMPROVEMENT

Soils.

Strip farming with the conservation of trash cover continues to be practised by dry land operators over a wide area. Soil drift problems were confined mostly to the area situated between the Bow and Little Bow rivers, and crop damage was not so extensive this year. Good results were obtained by heavily listing summer-fallowed strips. Experiments were also made with basin listers with gratifying results. Over the entire country, basin listed lands showed fully two feet more soil moisture than lands not basin listed.

Fertilizers.

Fertilizers are used by practically all sugar beet growers, and much consideration is given to rotations which include a leguminous crop. Grain growers are also using fertilizers quite extensively with good results.

Cereal Crops.

The cereals most generally grown are Marquis wheat, Banner and Victory oats and Trebi barley. Good results have been obtained

by growers of Canus wheat under dry land conditions. Reports indicate yields running as high as 12 bushels per acre more from Canus wheat when compared to Marquis wheat under similar conditions. A good demand existed for registered varieties of wheat, and all known local supplies were readily sold.

Local exhibitors again won numerous awards with their exhibits at the Toronto Royal and Chicago International shows.

Forage and Pasture Crops.

Alfalfa remains the main hay crop with large supplies on hand, and limited demand. The large commercial feed lot operators are furnishing the only market to date, at \$7.00 per ton, loose delivered. White Blossom sweet clover is grown extensively to fit in with the necessary rotation where sugar beets are grown. A few growers are making a success in growing Crested Wheat Grass and Creeping Red Fescue for seed. There has been a marked increase in enquiries for irrigated pasture mixtures.

MISCELLANEOUS CROPS

Sugar Beets.

No increase in acreage. Another good crop of 12 tons per acre was harvested this year under ideal weather conditions. The growing of this crop has proved a boon to the large number of farmers in irrigated lands engaged in this business.

Beet tops, molasses and pulp are providing large supplies of valuable cheap feed to the rapidly growing live stock feeding industry.

Corn.

A few growers had excellent yields of fodder and sweet corn of high quality. There will be a quantity of good seed corn for sale.

A grower of the Gehu corn from Barons has won first at Toronto for the second consecutive year.

Potatoes.

Acreage remains the same as the previous year at 6,000 acres. Price to a grower on cars, \$8.00 per ton. Yields were lighter this year and a serious falling off in quality, due to outbreak of several diseases, which caused heavy losses to some growers when their entire crop was rendered unsuitable for commercial purposes.

Peas and Beans.

Three companies handling contract acreage of peas and beans operate in this district. There was practically no increase in acreage. Satisfactory yields were obtained by numerous growers, and the guaranteed price for these crops, when wheat remains at present level, is causing prospective growers to seek contract acreage.

Weeds.

The newer perennials, such as hoary cress, Russian knapweed, and leafy spurge, are spreading. There still remains considerable work for a weed inspector in this area to enforce destruction of noxious weeds.

Insect Pests.

Grasshoppers were again very plentiful, and a heavy demand for poison bait from the local mixing station existed. Daily output of bait occasionally exceeded 100 tons.

Pale Western cutworm damage was less. Damage from saw fly and Say's grain bug was definitely on the increase, and undoubtedly will become a serious menace to wheat crops.

SHORT COURSES AND FIELD DAYS

Numerous field days and meetings were arranged and attended throughout the year, such as the necessary meetings for junior clubs, park boards, potato and grain growers, and live stock feeders.

BOYS' AND GIRLS' CLUB WORK

Junior clubs comprised:

Lethbridge Wheat Club	22 members
Lethbridge Potato Club	17 "
Lethbridge Dairy Calf Club	37 "
Lethbridge Calf Feeding Club	25 "
Lethbridge Swine Club	18 "
Taber Swine Club	15 "
Total	134 members

The average score for potato plots was 80 points and wheat plots 80 points. Six members used First Generation Registered Marquis seed wheat.

The members of the live stock clubs had a banner year. At their Achievement Day, held in conjunction with the Lethbridge Exhibition, 72 members and animals turned out in the live stock parade. The club live stock was exceptionally well fitted and of good quality, and did considerable winning also in the open classes.

The sale of beef calves was again most satisfactory. The top four animals were purchased by the T. Eaton Co., at 40c, 30c, 17c and 17c per pound respectively. The average selling price for 25 calves was \$12.05 per hundred weight.

The beef judging team reached Edmonton in the final elimination judging contest, and the dairy judging team won the finals and made the trip to the Toronto Royal.

Boys' and Girls' Camp.

Thirty girls and 51 boys were registered at the boys' and girls' camp held in conjunction with the Lethbridge Fair.

Instructions and contests were held in judging dairy and beef cattle, swine and grains.

Special sewing demonstrations were put on for the girls. A good programme of entertainment was also arranged. Much interest and appreciation of the work was shown by these young people.

LETHBRIDGE FEEDERS' ASSOCIATION, LTD.

This association finally got organized and started to function by October 14th. Despite the late start, good feeder live stock was obtained at reasonable prices.

This source of credit is proving of inestimable value to the live stock feeders, who have an abundance of cheap feeds for which there would be no other means of marketing. Live stock sales to date are bringing a very satisfactory spread in prices to the feeders. The purchasing, supervision, and selling of association live stock is proving a full time job to the supervisor.

BROOKS DISTRICT

(M. L. FRENG)

Following one of our driest seasons, there was very little reserved moisture carried over from 1937. With a very heavy covering of snow during the winter of 1937 and 1938 and with a total of 14.33 inches of precipitation, coupled with an average of two irrigations, a splendid crop was harvested throughout the eastern irrigation district.

Due to the wet spring conditions, most of the seeding was later than usual and much of the land was sown without the usual careful preparations.

There was no frost damage and very little insect damage throughout this district, but there was some hail damage in scattered areas.

HORSES

A considerable number of horses have been shipped out of this district again this season. There is also an increased interest in horse breeding, and several good stallions are available to the farmers. There was another bad outbreak of equine encephalomyelitis throughout this district last fall, and farmers are looking for veterinary assistance in this connection from the Government.

CATTLE

The cattle came through the hard winter in a very thin condition with some losses, but with the excellent grazing conditions the range cattle improved rapidly, and they are in exceptionally good condition.

The Bow Valley Feeders' Association was organized here in the fall. There are about twenty cars of cattle placed in feed lots in connection with this association. This will greatly stimulate and encourage the feeding and finishing of live stock in this district. A great deal of time has been devoted to the promoting of this project, and numerous farmers have indicated their intention to prepare for next season.

SHEEP

There is some interest in small farm flocks throughout the irrigation section, but this district is well adapted to the feeding and finishing of range lambs. There are two feeders' associations in this district which have operated for several years, and there are approximately 25,000 lambs on feed.

SWINE

There are several very successful swine raisers throughout this area. Unfortunately, owing to the high price of feed and comparatively low price of hogs last season, many of the farmers went out of hog raising. This district is, however, well adapted to a permanent system of hog raising, and we feel that a great deal of assistance is necessary to secure the right type of breeding stock, pure-bred boars and proper feeding methods and management.

POULTRY

While poultry raising has not generally received the attention it deserves, there are, however, a few scattered farmers who have splendid flocks with proper housing, and are apparently well satisfied with the returns. Turkey raising is also receiving more attention. Some excellent quality is being produced, and a number

of toms and hens have given an excellent account of themselves at the Royal and Provincial shows.

SOILS

Under our irrigation system of farming the soil varies considerably owing to seepage and alkali conditions. Many requests have come to this office with reference to crops and grasses best suited to the various conditions.

FIELD CROPS

A considerable quantity of certified wheat and certified O.A.C. 21 barley has been distributed, and the wheat club members have also distributed quantities of the pure seed, and they have had marked effect on crop improvements in this district.

WEEDS AND INSECT PESTS

Weeds are always a serious problem under irrigation. The green fox-tail is spreading in some areas, and wild oats and Canadian thistle are a problem in every irrigated district. Sow thistle and the Russian knapp weed require careful attention.

JUNIOR GRAIN CLUB

The Rainier Wheat Club, with a membership of 23, held its Field Day at the Provincial Horticultural Station grounds at Brooks. There was a good attendance, and after the programme a tour through the horticultural grounds was made and very much enjoyed by all.

HORTICULTURAL SHOWS

The Rainier Horticultural Society held a very successful show. We assisted in the judging, and we were very much impressed by the improved quality and interest shown. A very creditable display from this station was put on in connection with the sports day at Brooks.

YOUTH SHORT COURSE

Arrangements were made to hold a Youth Training Short Course here. About 100 attended, the course being very successful and greatly appreciated by all.

FIELD DAYS AND PICNICS

Field days and picnics were enjoyed at the horticultural grounds during the season. A great many visitors were shown through the grounds during the past summer.

SCHOOL FAIRS

Several school fairs were held throughout this district, which I attended and assisted with the judging. Generally there were excellent vegetable exhibits, but the live stock entries were not up to expectations.

FAIRS AND SEED SHOWS

I attended and judged sheep and swine and the baby beef classes at the Lethbridge Summer Exhibition; also cattle, sheep and swine at the Priddis and Millarville Fair, and at the seed fair at Lethbridge.

FARM PLANNING

Assistance has been given to numerous farmers in planning and beautifying their home grounds, and also the field lay-outs and crop rotations best suited to the various conditions.

HORTICULTURAL STATION

A separate report on horticultural work will be issued by Horticulturist P. D. Hargraves.

PROVINCIAL FARM

While a part of the farm is devoted to horticulture, the balance of the land was leased for farming purposes until November 1st, 1938. The farm will now be operated by the Department of Agriculture, and in addition to the horticultural experimental work an excellent type pure-bred Holstein herd has been added. There is also a splendid foundation flock of pure-bred Hampshire sheep and four pure-bred Yorkshire sows on the premises. Brooks, located in the centre of the largest irrigation district in the Province, has always been considered a logical place for a demonstration farm. It will be greatly appreciated by the farmers of this district, and will greatly assist in developing a more balanced and permanent type of agriculture.

During the past year my time has been taken up in connection with the supervision of the station and Government Farm. I have, however, tried to make as many contacts with the farmers as possible and meet with the many requests which come to this office.

PROVINCIAL HORTICULTURAL STATION, BROOKS

(P. D. HARGRAVE, *Assistant Superintendent*)

Every year sees some improvement in horticultural stocks for introduction to prairie conditions. This year the station has selected and propagated for introduction some new apples and crabs, and has selected the most suitable tomato varieties out of an increasing collection. The exhibit of Fairway Strain Crested Wheat Grass, shown at the Toronto Royal, placed first. Prizes, in the form of nursery stock, were presented to the prize-winners of the Creamery Improvement Competition. The number of varieties of fruit and ornamentals increases annually. There are now approximately 750 fruit varieties and 250 ornamental varieties represented on the grounds. The small addition to our greenhouse facilities, just completed will aid greatly in the furtherance of our breeding programme.

We were again able to make use of a student in agriculture during the summer months. This plan has proved very satisfactory, and we hope to avail ourselves of more help of this kind from time to time.

The continued and increasing demand by home owners, both rural and urban, for information about our work does much to encourage it.

CLIMATE

Weather during the calendar year of 1938 was exceptional. No real high or low temperatures were experienced, the extreme being -37°F. in December and 100°F. in July. However, the month of February had a mean of 2.23°F. ; a disastrous blizzard was experienced on March 29th and 30th; a sharp frost on April 28th injured a high percentage of fruit buds; we had the long frost-free period of 169 days from April 25th to October 14th; a total precipitation of 14.33 inches, being 2.5 inches above average, which fell largely

from May to September; and an exceptionally open fall, with little snow and no severe weather until late in December. Table of monthly and yearly records follow:

TEMPERATURE RECORD FOR THE YEAR 1938							
Month	Average	High	Date	Low	Date	Precip.	
January	17.55	42	9	—24	30	.37	
February	2.23	48	26	—30	16	1.05	
March	27.80	56	26	—11	7	1.60	
April	41.38	77	29	—1	1	.92	
May	.....	80	21	27	6	2.12	
June	.....	95	21	44	9	1.04	
July	74.00	101	22	47	26	1.63	
August	64.5	92	28	41	22	2.69	
September	63.6	92	4	38	29	1.22	
October	48.8	71	26	21	17	1.15	
November	28.5	56	3	—6	11	.55	
December	20.6	48	8	—37	28	.98	
							14.33

NEW ORCHARDS, INTRODUCTIONS AND PROPAGATIONS

Two new orchards, Farms No. 3 and No. 4, were planted in the early spring. All trees used were propagated at the station. When planted, the best of material was used and each tree slanted into the 2 o'clock sun at 16½ foot centres. They received no water at planting.

Orchard No. 3 was planted on sod broken in July, 1937. It consists of 11 varieties, with 18 trees of each variety, planted in paralleled rows. These varieties were considered hardy and possibly of commercial value. Sufficient of each will be available for test purposes. The varieties are: Alexis, Columbia, Dolgo, Florence, Robin, Jewel, Olga, Brooks AL-14-B-4, Osman, Rosilda, Trail.

Orchard No. 4 represents a variety test orchard with two of each variety being planted. Ninety-nine varieties so far are represented, and there are 186 varieties to be set out next spring. This orchard will be of outstanding value in variety testing work, in having available a supply of propagating material of varieties growing on the prairies, and in yielding pollen for breeding purposes.

Approximately 1,100 seedlings were planted for growing to maturity.

During the year 140 new fruit varieties were introduced. These were largely apples, but many plums, cherries, nuts and small fruits were included. Many new ornamentals were added to our collection. Seed of 29 new species and varieties of fruit were introduced from foreign countries, and a very successful germination was obtained. The apricots, cherries, and walnuts were the most interesting introductions of this group.

A number of selections from the seedling orchards of the station were made. These are propagated and ready for distribution throughout the prairies for wider testing. Descriptions of these are available on request.

Budding of the 1937 season gave a good stand of whips, about 3,200 being dug for replanting and disposal. The catch of plums was again disappointing. Many apricots, although giving a good stand early in the season, were lost due to the incompatibility of stock and scion. These will require apricot seedlings as stock or double worked plum.

SHIPPING SEASON

During the current year nursery men of the Province have made greater use of the station. They, along with selected people throughout the Province, the Schools of Agriculture and their

Experimental Unions, received 2,323 fruits and ornamentals from this station. Many packages, on request, of fruit seeds and scion wood were sent out.

EXPERIMENTAL WORK

Testing.

During the past year experimental work was centred around fruit and tomato breeding; vine crop, potato and tomato variety testing. An attempt to increase the chromosome number of the Osman crab by the use of colchicine was also made.

Short mimeographical reports are being prepared on the tomato and potato and vine crop test. These are available on request. It may be of interest to report the highest yielding varieties here:

HIGHEST YIELDING POTATO VARIETIES

1937—From 14 Varieties:	1938—From 20 Varieties:
1st—Irish Cobbler.	1st—Yellow Burbank.
2nd—Golden.	2nd—Irish Cobbler.
3rd—Irish Gem	3rd—Vick's Extra Early.
4th—Early Ohio.	4th—Peach Blow.
5th—Yellow Burbank.	5th—Columbia Russet.
6th—Netted Gem.	6th—Carter's Early Favorite.
	9th—Netted Gem.

It is of interest to note that the highest yielding varieties do not always score high from a marketing standpoint. The highest scoring varieties, without a cooking test, were:

HIGHEST SCORING POTATO VARIETIES

1st—Netted Gem.	5th—Columbia Russet.
2nd—Yellow Burbank.	6th—Irish Cobbler.
3rd—Carter's Early Favorite.	7th—Katahdin.
4th—Chippewa.	

NOTE.—A cooking test would take Yellow Burbank out because of flesh colour.

In the tomato plot, yields were based on total fruit ripe on September 10th and September 24th. The total of the early pickings allows for a better choice of varieties suitable to Alberta growing conditions.

Early Varieties on Sept. 10th, 1937	Early Varieties on Sept. 10th, 1938	Highest Yielding Varieties by Sept. 24th, 1938
N.D. 216-2-3	Bison BS	Abb O-4208
Bison	Abel	Bonney Best
N.D. 209-2-10	Princess Mary	Bestal
Red River	Red River	Vernon
Golden Bison	N.D. 209-2-10	John Baer
N.D. 215-P-2	N.D. 216-2-3	Denmark

It is interesting to note that, with one exception, all of the leading varieties on the first date are the newer determinate tomato varieties, while those leading at the latter date are indeterminate. These indeterminate types also represent the old varieties developed for regions with longer growing seasons, and so less suitable to prairie conditions. Farthest North, although not leading in total yield, produced the earliest ripe fruit.

As previously mentioned, many new varieties have been added to the testing grounds.

Dwarfed fruit trees, grown in tubes, were used in breeding work for the first time. The tomato crosses created a great deal of interest, and with further fixing as to type should prove a definite addition to the prairie vegetable garden.

FRUIT

Due to the combined effects of the blizzard late in March and the frost of April 28, fruit buds of most large varieties were killed. Varieties that remained dormant or had not started growth as early were not injured. Wherever there was an abundance of

shelter the least injury occurred. Although the last killing frost occurred on April 28th, spring growth was later than last year. Full bloom was not reached until May 29th, about 10 to 15 days later than usual.

There was more than four tons of plums, apples, and crabs harvested for sale. This was a small crop, being only a fifth of that harvested the previous year. Many small fruits, including cherries and strawberries, yielded well, as did the butternuts and walnuts.

EXTENSION

The largest field day on the grounds is that held in co-operation with the Eastern Irrigation District. This was held on August 4th with an estimated crowd of 1,800 people. A large gathering of this nature affords little opportunity for an educational programme. It does encourage the people to come back, individually and in small groups, to spend a few hours in the orchards. The Hanna Board of Trade, the Calgary and Medicine Hat Shriners, the Rainier Grain Club organized visits to the station grounds; the Coronation celebrations, as well as many church and school picnics, were also held at the station. Many small gatherings take place on the picnic grounds, and these visitors are shown the work being carried on to much greater advantage than is possible with larger groups.

Co-operation was extended to the Rainier Horticultural Society, Brooks Stampede and Agricultural Fair, District Agriculturists' Field Days, and a display was prepared for the Edmonton offices and displayed by the Hudson's Bay Company. Invitations were received from the Calgary and Lethbridge Horticultural Society. Due to short fruit crop, we were unable to take our usual exhibits.

CONCLUSION

The foregoing is a brief summary of the more important work being done at the station. The climate is of great importance in crop production, and that of the last year has been exceptional. The new orchards and introductions will add greatly to the educational value of the station programme. There is a need for free channels for the introduction of new plant materials to the home owners of the Province and for the dissemination of information. Variety testing each season proves more conclusively the need for types of vegetables and fruits developed in Alberta for Alberta conditions.

RED DEER DISTRICT

(F. H. NEWCOMBE)

The season of 1938 opened with a splendid moisture supply derived principally from heavy winter snow. The spring was fairly early, seeding, having begun about April 14th. The following precipitation record will give some indication of moisture supply throughout the growing season:

April	2.42	September	.48
May	2.27	October	1.37
June	.73		
July	4.37		22.02
August	10.38		

The above records were taken in the City of Red Deer, and it may be said that precipitation was somewhat higher in the western

part of the territory and somewhat lower in the eastern part. The seed generally was strong and germination and emergence were satisfactory. As will be noted from the precipitation record, no appreciable amount of moisture was received until July. The crop, however, made satisfactory progress, and the rains arrived just in time to assure a reasonable stand. Considerable hail damage occurred in the Caroline, Dickson, Innisfail, Bowden and Knee Hill Valley districts. Over some of this area there were three bad storms, and in some cases the damage was 100%. In other parts the second growth made a fair quality of grain over very favourable late summer and fall conditions. The crop was harvested with practically no loss from weather. The estimated average yields, leaving out hailed areas, were as follows: Wheat 21 bushels, oats 36 bushels, barley 24 bushels. Wheat graded mostly 2, 3 and 4 Northern. Yields of natural and cultivated hay were below average. Yields of alfalfa were light in the first cutting and somewhat better in the second.

STATISTICS

Car mileage	19,970
Farm visits	812
Circular letters	750
Bulletins	40
Meetings attended	80

HORSES

In spite of the fact that tractor sales are on the increase and power farming is apparently gaining in popularity, there continues to be a strong interest in the breeding of horses. Prices for farm horses have been well sustained throughout the season, and the spring horse sales at Red Deer and Lacombe were well patronized. Some organization work was attempted, but only three stallions were placed under the Provincial Purchase Policy in this territory during the season. The policy is, however, becoming more popular, and there is evidence of more development along this line.

Assistance was also given to the farmers in the Horse Shoe Lake district organizing under the Federal Horse Breeding Policy, and a stallion was placed in that district under this policy.

BEEF CATTLE

The breeding of beef cattle is not increasing in this area, though winter feeding this fall indicates some increase over the season 1937-38. The low price obtained for finished cattle last spring was a discouraging factor, but the somewhat lower price of feeder cattle this fall coupled with the low price of feed grains, has stimulated the feeding industry. This office is not carrying on any organized work in connection with commercial beef finishing, though we have been able on various occasions to offer suggestions.

The de-horners placed in this office by the Department have been used by fifteen farmers to de-horn 100 head of cattle.

Considerable effort was directed to the Bull Exchange Policy, but only 14 bulls were placed. This is accounted for to some extent by the number of breeders of pure-bred cattle located in this area who formed a source of supply of bulls required in other districts. A lack of local contact organizations in the parts of the district where the policy should have been most popular made placements difficult. Should the policy continue, there is every indication that this condition will be remedied by next year. We gave some time to the purchase of bulls, and in co-operation with

Mr. Roper, of Lacombe, were out about two and a-half weeks on this work.

DAIRYING

The volume of dairying in this district has remained approximately steady throughout the season, though there have been discouraging features in connection with the markets and only one factor, namely, the low price of feed grains, offers any indication of increase.

In the immediate Red Deer district the suspension of the Condensery diverted a product formerly going into condensed milk, into butter channels. This may have a small effect on the number of cows milked, but the net result will not be appreciable. We are of the opinion that the time is opportune for an improvement campaign with respect to dairy cattle, and that if some policy similar to the Bull Exchange Policy were offered to the people it would meet with a good response, provided better females are available for distribution. The work of this office in connection with dairy cattle has been with individuals in the planning of rations and a few cases of culling of dairy herds.

SHEEP

Rather more interest than usual is being displayed in sheep breeding in this district. Several enquiries have come to the office, and we have been able to assist in the matter of locating breeding stock for those wishing to establish small farm flocks. In most cases range or grade ewes have been purchased, and the flocks will be sired by good rams of Down breeding. While the actual increase in sheep population will not be large, the present development is a healthy one, and will assist greatly in the solution of certain cropping problems.

Large numbers of commercial sheep and lambs came into the district this fall and are in feed lots at the time of writing. Though the price of feeder lambs was rather high, the feed situation is such that a reasonable profit should be secured. All of the live stock in feed lots, including the beef cattle, are doing very well this fall, as the weather has been exceptionally favourable and the feed of good quality.

SWINE

Once again the lowly pig has emerged from a very temporary period of depression and is again rapidly assuming his place as a source of farm income. Sow breedings are very definitely up this fall, the increase in this district being possibly 25% over last year. This again is accounted for by the low price of feed grains and the fact that breeding herds had been depleted.

The only organized project of swine improvement of any importance in this district was that carried on in the Blindman Valley in co-operation with the Blindman Valley Co-operative Marketing Association. Under this policy applications were received by the association and handed on to us. Inspection was made of the herd and premises of each applicant and notes kept with respect to the quality of the breeding stock. Boars were purchased from breeders of A.R. sows, and practically all the boars placed were from qualified dams. In all, 43 boars were placed, 16 being Tamworth and the balance Yorkshire. The boars were 12 to 16 weeks of age at the time of purchase, and at the last inspection trip practically all were developing satisfactorily.

In addition to the improvement in quality of breeding stock which should result from this policy, a large number of useful contacts were made which will, we hope, provide an opportunity for some work in improved feeding and management methods. In addition to this policy we have, by individual contact, assisted in locating and purchasing 15 boars for individuals.

There is a keen interest in the district with respect to improvement in swine housing. The plans supplied by the Department from this office are in demand, and we know of at least six modern swine barns that have been erected in this area on the basis of these plans.

POULTRY

There continues to be a slow but steady development in farm poultry flocks, and there are now large numbers of excellent poultry flocks in the district. No organized work is being attempted with poultry from this office, though a large number of farm visits are made in this connection, and information on housing, feeding and management is given. The hatching egg market is apparently somewhat precarious, rather less birds having been blood-tested for this purpose than previously. Poultry culling service has been given in eight flocks, comprising about 1,200 birds.

SOILS AND FIELD CROPS

A definite soil problem exists in all the wooded area lying along the west side of my territory. No organized projects have been attempted as yet, but considerable work has been done with individuals in working out crop sequence plans incorporating legumes and commercial fertilizers. It is hoped that something in the way of definite projects in organized groups may be worked out in the coming season.

In cereal production there appears to be little opening in this district other than the encouragement of the use of better seed. This matter has been stressed on all appropriate occasions, and we may confidently state that considerable headway has been made in encouraging the use of better milling varieties, particularly on the poorer types of soil less suited to wheat production. It is also probable that we have been instrumental to some extent in discouraging the production of wheat in these areas. Garnet is still the most prevalent, although there was a marked increase in the use of Red Bobs this season. Reward is barely holding its own.

While the acreage sown to forage crops is still relatively low, there is a very definite increase in the use of these crops. The Municipal Districts of Crown, Lorne, Golden West, Pine Lake and Fertile Valley have been organized under the Forage Seed Distribution Policy, and seed was distributed this year to 278 farmers in these districts. This policy is meeting with splendid response and is an important factor in encouraging the use of grasses and legumes. The true objects of the policy are becoming apparent to the people as time goes on. The relatively low price of wheat is, of course, an important factor in increased seeding to forage crops, but such problems as weed control, soil drifting and soil fertility also contribute to their use. In connection with the Forage Seed Distribution Policy we attended several public meetings, and in addition we arranged to be present when the seed was being distributed. At that time we discussed with the applicants the problems in this connection and gave information on cultural and

seeding methods. Alfalfa and sweet clover were probably most popular. We are endeavouring to encourage the production of seeds of forage crops so as to reduce the cost of seeding down, and in this we have been reasonably successful.

With a view to improving the grade of seed in the Innisfail district, a seed cleaning association was organized with 45 members, and a cleaning machine has been placed in that district by the Field Crops Branch. We are giving supervision to the operation of this machine.

JUNIOR CLUBS

Junior swine clubs have been discontinued in this area because interest had diminished, and we feel that the usefulness of these clubs has largely expired. Junior grain clubs were supervised at Red Deer, Leslieville, Rimbey and Alix, the total membership in these clubs being 74.

Junior beef feeding clubs are carried on at Red Deer, Lacombe and Innisfail with a total membership of 115. The two former clubs have fed exclusively Angus calves and the latter fed Herefords. Interest in these clubs is particularly keen, though the average selling price of \$7.50 per hundred weight is not particularly encouraging this year. We are convinced that something will have to be done with respect to increasing the margin if these clubs are to continue. This may be done by buying at a lower price or by finding better market outlets. It is, however, realized that former price levels for these calves were on an artificial basis, and could not hope to be sustained. This, of course, is a contributing factor to the dissatisfaction with the present levels.

Ninety-three calves of Shorthorn and Angus breeding respectively are on feed with the members of these three clubs for this season. We have given considerable time to the supervision of these clubs, believing that the finishing of commercial cattle should be encouraged in this area, and we are convinced that these clubs are a means to that end. It is evident, however, that as the work develops and other projects demand attention, it will be necessary to delegate more and more of the work of the clubs to local committees.

Three judging teams representing these three clubs were given training in beef cattle work, and Gordon Towers and Howard Henderson, representing Red Deer, were successful in winning the championship in Provincial competition and in taking second place in National competitions.

GENERAL

We have realized for some years that continued efficiency of this type of work in contacting farmers, particularly in areas so large, would be greatly enhanced by local contact organizations. We believe that the mental attitude of the farming population was never better for such a type of organization than at present. With this in mind we have attempted to effect organizations similar to that of recent origin in the drought areas of the Province. We have reference to agricultural associations. While the problems in this part of the Province are distinctly different from those stimulating these organizations in the drought areas, it is certain that much progress could be accomplished by the right type of organization. The immediate problems to be attempted will doubtless be confined to production, though the field of marketing should receive attention. Organizations have been effected at Bluffton, Dickson and Kevisville, and these associations have

started out this year on a few limited campaigns. Bacon litter competitions, covering about 40 litters of pigs, were organized at all three of these points and a score card was worked out covering cost of gains, rate of gain, equipment and management methods, and carcass score. The pigs were tattooed and given special rail grading at marketing time. At this date these competitions are not quite completed, but it is evident that much useful information will come out of them. The outstanding thing about these competitions is that in so far as we know they are the first of this kind to be carried on without anything in the way of prize money being offered and without governmental assistance except in the matter of supervision and arrangements for rail grading. In other words, this project like most of those which will be recommended to these associations is based on the principle of self-help together with what leadership and guidance can be provided from our office. This line, we believe, is sound and will result in considerable improvement.

Some of these organizations have conducted limited competitions in warble fly control, and it is hoped that during the coming season these campaigns will be intensified to include all of these districts affected.

The association at Dickson has been instrumental in uniting the community in a request for a Dominion illustration station, which has been established at that district this summer.

Experimental lots of grass and clover seed including 10 varieties have been sent out to members of these associations. Our envelope samples were seeded under our direction with fertilizer and inoculation check plots. The plots are doing exceptionally well, and should provide useful information.

In much of the work with agricultural associations we have co-operated with the Dominion Live Stock Branch, and acknowledgment is hereby made of their assistance.

The western portion of the district has been selected as probably the most acceptable for this type of organization at the present time. The matter is being brought to the attention of a great many more communities in that area, and it is not improbable that most of the district between Hoadley on the north and the Red Deer river on the south will be included in these associations during the coming season.

The Farm Camp at the Red Deer Fair was conducted as usual with 35 boys and 18 girls. The usual type of instruction was given, and the campaign was considered satisfactory.

No short courses were conducted in the district during the past season, though a large number of farmers' meetings was held. In all, at these meetings we have addressed an aggregate of approximately 1,800 farmers. We also attended and addressed five farmers' gatherings at field days during the summer. Personally we consider the farmers' meetings held in a small community to be more effective than the more elaborate short courses. During this fall particularly there has been an exceptionally keen request for such meetings, at many of which we have had the assistance of the staff of the Experimental Station at Lacombe, which is gratefully acknowledged.

Seven school fairs were held in this district, and we officiated as judge of live stock and poultry at these fairs. Some additional

assistance was given to the Red Deer School Fair in the matter of judging standing gardens.

A school for egg-grading was held at Red Deer during the spring months, and we co-operated with the Dominion Poultry Service in local arrangements for this school.

During the spring we inspected and arranged for shipment of two cars of seed potatoes for the Relief Division. These were shipped to the drought area.

Information covering almost the entire spectrum of agriculture has been given out to farmers during the season from this office.

Under the Youth Training Plan, a short course in agriculture was held at Lacombe in January. We gave assistance to this course in the matter of securing students and also addressed those present. Under Schedule "E" of this plan we placed a few boys on farms, and more could have been placed had the boys been available.

STETTLER DISTRICT

(B. J. WHITBREAD)

The third year of district agriculturist endeavour in this area has been one of steady progress toward closer contact with a larger number of farmers, and a building up of a district agriculturist consciousness for its value to the individual farmer.

MEETINGS

Throughout this area all local association contacts have been maintained and added to by means of field days, agricultural short courses and sundry meetings. These gatherings have for the most part been arranged through this office with regard to programme, speakers and publicity. In all, 76 meetings were held at 24 points with a total estimated attendance of 2,500 people. Other occasions for timely talks to groups of the farming community have been school fairs, live stock and grain club fairs, and illustration farm field days. Individual calls on farmers have centred around members in co-operative horse clubs, junior clubs and agricultural association members and their forage crop trial plots. Every branch of agricultural endeavour is fully discussed under the meetings' programme, the only effective way by which the Department's quality production programme can be quickly accomplished and duly appreciated.

CATTLE

An abundance of feed raised this year has given a great impetus to cattle raising in this area, and with a definite effort toward breed improvement. Gradually there is coming to be a greater appreciation of quality production among cattle raisers and a keen interest in pure-bred beef sires. While considerable milking is done, dairy sires are not being brought in. Beef production is the chief motive of all cattle raising.

The placement of about 40 pure-bred bull calves of the beef breeds under the Exchange Bull Policy in this area is indicative of the appreciation, not only of good breeding sires, but of the effectiveness, together with economy, with which the Department has set about the elimination of the inferior sires amongst cattle. The

objective of the Exchange Bull Policy has met with the widest acclaim, and promises to be one of the most progressive and highly complimented Departmental policies to be administered in this area.

Tuberculosis free area canvass has been under way over the eastern three-quarters of this area, and will need extension to the western boundary on the Red Deer River and Buffalo Lake. Canvassers are suggested by the municipal secretary, four men making the canvass in each township.

Warble fly elimination was initiated in the northern half of the area this year. After checking up sales made by all vendors handling warble fly powder it was estimated that approximately 10,000 treatments were made. Most important was the fact that sufficient effective treatment was carried out to convince farmers all through the district that cattle can be prevented from summer stampeding and the subsequent losses eliminated.

De-horners placed in this office travelled far afield in the area during suitable weather for de-horning in spring and fall, with an estimated removal of horns from about 700 head.

The Federal loan bulls were maintained in parts of this area, no additional groups being formed. These groups have been very effective in interesting farmers in the Exchange Bull Policy with the desirable result of taking the menacing scrub bull from the vicinity of the bull loan groups.

Many private sales and exchanges of bulls have been facilitated, and one is continually listing a bull to later tell someone where such can be procured and without mention of price. This casual service is highly complimented and much appreciated by all benefactors.

Dairying as it pertains to shipping cream has not been curtailed to any extent due to lowered prices. The cream cheque has on many farms come to stay. The testing of cows for weight of milk and butterfat content is a need this office has been able to assist with through dairy field days and general discussion at farmer meetings. Along with a test of performance goes the necessity of a greater appreciation of the relative value of feeds for dairy cows linking up with the forage crop programme and the growing of legumes.

HORSES

Last year's assistance given to co-operative purchase of stallion groups resulted in two Percheron stallions being placed in the area. The problem of grade stallion used for breeding purposes remains as acute this year as last, with little indication of change until some progressive coercive programme is effected.

Encephalomyelitis amongst horses caused some serious losses in the eastern section and was prevalent throughout the area. Vaccine was available, and a general confidence in methods of treatment was established, lessening farmers' fears of large losses.

SWINE

While production of commercial hogs was curtailed this year through shortage of feed, there has this fall been a wide demand for breeding stock throughout the entire area. There were 101 open gilts brought in and placed amongst farmers under the Dominion Brood Sow Policy, accompanied by five Yorkshire boars.

Five boars were also placed amongst swine breeders in the Westwoods Agricultural Association district under the Provincial Swine Policy.

The facilitating of the distribution of breeding stock of swine was a very important part of this fall's endeavour from this office.

SHEEP

This has been a satisfactory season for sheep raising in large and small flocks as a commercial lamb proposition. There is a tendency for the small flock owners to increase their number of breeding females. The male breeding stock is for the most part pure-bred, but often in the lower price range. Sheep raising is being extended cautiously and at small cost in breeding animals. Hampshire and Suffolk breeds are favoured. Breeders of pure-bred stock have had a satisfactory sale for their best rams.

POULTRY

Poultry raisers finished the season optimistically. Plenty of cheap grain and indifferent poultry producers curtailing their output has been conducive to allowing the efficient producer to profitably carry on. The marginal producers have for the most part dropped flock testing for hatchery marketing of eggs, which will make for a profitable yearly poultry income.

The production of live poultry was not increased, but the quality, especially of turkeys, was excellent, accounted for by the ample feed and ideal weather through the fattening period.

Some individual flocks of fowl were culled upon request as an educational effort to demonstrate and encourage confidence to cull and feed effectively, and this preparatory to some form of production test.

CEREAL CROPS

The yield of cereal crops has this year been such as to provide a cash crop with plenty of feed to carry on the mixed type of farming endeavour best suited for this area. Yields were highest in the western parts of the area to its southern boundary, and varied over the area from 10 to 40 bushels per acre for wheat, 35 to 85 bushels per acre for oats, 20 to 50 bushels per acre for barley.

Stem rust was prevalent on wheat with slight, if any, damage to yield except on the extremely late harvested fields. Oats and barley were free from any rust attacks. Fall frosts did not occur in time to lower grade and yield of cereals. Grades on wheat were 2 to 5 Northern due to a degree of immaturity showing on the kernels caused by too early cutting. Oat and barley grades are high.

The available quantity of oats and barley with their low market value has increased the feeding of these grains to hogs and cattle. It will undoubtedly result in additional grain feeding of milk cows for production and horses for spring sale, and through these avenues coarse grains will return added revenue. Roughage as the result of good grain crops is everywhere abundant.

WEEDS

The growth of crops was such throughout the season as to hold weeds in check or to a minimum. Where crops were thinned by soil drifting, cutworm and wireworm damage, weeds were more in evidence. No vegetation destroying frost occurred until late in

October, which resulted in many weeds maturing seed on summer-fallow land this fall. The general occurrence of weeds on fallow land this fall can be explained by the rush to harvest the heavy crop and to an effort being made not to disturb land at the time cutworm moths lay their eggs. Summer-fallowing every third year continues to be the chief method of weed control. Fall cultivating of stubble land for weed control is occasionally done sufficiently early in the season to effectively reduce weeds as a crop menace, but is still a too infrequent practise.

FORAGE CROPS

Two municipalities sold forage crop seed to farmers under the Provincial-Federal-Municipal Plan. The seedings were carried out with success, this being a favourable season. There is a very slow appreciation of forage crops for their three-way benefits of feed, soil binder and fertility. Soil drifting is impressing farmers with the need for use of grasses to assist to hold land. Large quantities of native hay and straw available this year will lessen the interest in forage crop growing. Where plots of forage crops have been established a greater appreciation of their value is apparent. Legume crop growing is still the greatest of forage crop deficiency here where mixed farming requires this type of nutritious feed for stock raising. Reports on plots of forage crops grown amongst the members of agricultural associations give every indication of a gradually increasing interest in the growing of alfalfa and crested wheat grass. Quantities of seed of these forages, grown this year, will be for sale at moderate prices.

JUNIOR CLUBS

Seven junior wheat clubs completed their projects with a total membership of about 108. One new club was organized and many new members admitted to the older clubs. Each grain club jointly or separately held a spring meeting, a field day and a seed fair through arrangements made from this office. On these occasions members received timely instruction relative to their club activities. Adults were invited to attend, and the club influence in this way spread as widely as possible.

Total membership of three swine clubs was 36, all of which carried through their project of a pair of feeder pigs to completion with a club fair. All swine shown were inspected on several occasions for progress, each member getting written and verbal instruction relative to the enterprise. The visitations were an excellent opportunity for farmer contacts and discussions relative to farming in all phases.

One beef feeding calf club carried through the project with 26 calves shown. Supervision in selecting calves, a feeding programme and exhibiting of calves were the educational features most to be appreciated.

A grain and swine club judging team was trained, and both reached the semi-finals in their respective classes.

INSECTS

Insects were active throughout the season, but not to any devastating degree. Cutworm and wireworm damage was severe in some sections, resulting in a thinning of the grain crops and their being late in maturing. Sawfly damage extended slightly with loss partly recovered by raking the stubble, use of combines and fall pasturing. Grasshopper damage was less than for some years, and

occurred chiefly in the eastern and southern portions. Adequate arrangements for distribution of poison bait was made by local authorities.

SCHOOL FAIRS

Live stock and poultry judging at six school fairs was carried through with appreciation of the opportunity these events offer of announcing Departmental policies, in addition to instruction and discussion of the live stock events these fairs always afford. Timely mention was possible re the Exchange Bull Policy, Youth Training Schools, Agricultural School Courses, etc.

HORTICULTURE

The innovation of having a horticulturist speak at 11 field days in July has shown that interest in this activity is abundantly present. Fruit, shelter belts and home beautification were the chief phases discussed. Departmental attention now being given to horticulture is definitely timely and warranted judging by the interest evinced at field days in the Provincial horticultural programme.

CIRCULARIZATION

This has entailed a large amount of office work, so far done without any stenographical help. Previous to all junior club meetings a notice is sent to each member. To insure satisfactory attendance at farmer meetings it has been found necessary to send out individual notices. Mimeographed material of general interest and of timely necessity was approved and prepared by the Live Stock Supervisor and distributed from this office. Circularization to popularize the warblefly campaign, Exchange Bull Policy, Boar Exchange Policy, Brood Sow Policy, etc., were among the timely announcements sent out to members of agricultural associations and others likely to be interested. No newspaper advertising was engaged in, but there was a limited publicity secured gratis in some parts of the area through local press editors' generosity. All news items growing out of meetings and agricultural happenings were reported to local papers interested. It is probable that farmers in this entire area, through the agencies of agricultural associations, junior club membership, school fair connections and by means of wide circularization, are now well aware of the district agriculturist service.

We expect an increased use of this service, having had sufficient time to cover the area with effective connection and application to the problems as they have existed. Further, there has been no lack of expressed appreciation of Departmental endeavour within the area complimentary to all efforts being put forth.

CAMROSE DISTRICT

(H. W. SCOTT)

Work on the higher land began the week opening April 18th, and was general towards the end of the week. The seed went into moist ground and germinated rapidly. Frequent scattered showers covered all the district, and prospects were for a better than average crop. Cutworms, wireworms and grasshoppers took a heavy toll in a good many districts, and considerable re-seeding was

necessary. Later in the season hail, sawflies and rust reduced the yield and grade over a large part of the district, but the yield of hay and grain crops was much higher than for a number of years, particularly in the eastern part of the Province. The average yield in the western part of the district would be about 20 bushels of wheat and 60 bushels of oats, and on good soil where conditions were favourable better than 50 bushels of wheat and 100 bushels of oats per acre were threshed; while toward the east, 12 bushels of wheat and 30 bushels of oats was considered a good crop. The long frost-free period in the fall contributed towards an exceptional yield of all garden crops. Corn, tomatoes and vines of all kinds produced abundantly. The board price for wheat resulted in an unusually heavy marketing of wheat at threshing time. Oats and barley in large quantities for this season of the year still remain in the farmers' hands. There has been a strong demand for live stock, particularly brood sows, to utilize low priced grain. The price of butterfat, while quite satisfactory in the spring and early summer, took a decided drop and remained at 16c for special cream right through until the end of the year. Hog prices remained fairly satisfactory throughout the year. Rather better prices prevailed for feeder cattle this fall, but the price of finished cattle and lambs left little profit for the feeders at different periods throughout the year.

CEREALS

Quite a number of farmers are interested in the growing of good seed. This is evidenced by the quantity of seed from field inspected crops that is being offered for sale—Red Bobs, 22,515 bushels; Marquis, 49,695 bushels; Garnet, 7,075 bushels; Canus, 2,350 bushels; Thatcher, 1,470 bushels; Renown, 600 bushels; Victory oats, 31,200 bushels; Banner, 12,655 bushels; Eagles, 3,000 bushels; O.A.C. 21 bushels; barley, 440 bushels; Trebi, 470 bushels; Newal, 130 bushels; Peatland, 250 bushels. On many farms seed true to variety and high in vigour could well replace that which is now being grown. This office is assisting in getting into general use more of this good seed from field inspected crops. This year, due possibly to the long frost-free period, rust was prevalent over a large part of the district. This condition does not appear often, and it is not at the present time the intention of many of the farmers to change to one of the rust resistant varieties. If later it is found that one of these newer rust resistant varieties is acceptable to the trade and as suitable for the district as the varieties now in use, a change may be made, but the general feeling is that there is not yet sufficient experience with these newer varieties, or that rust damage is not so serious as to warrant making a change at the present time. With the increase in the practice of using the ploughless fallow and leaving stubble on top to prevent soil drifting, the menace from sawflies has unquestionably increased, and farmers are using early seeded cereal crops for sawfly traps, and quite a number are using brome on the headlands for this purpose.

GRASSES AND CLOVERS

Grasses and clovers are of increasing importance, where they can be grown successfully, to control weeds, to improve the fibre content of the soil, to furnish pasture and feed for live stock. Nine municipalities in this district took advantage of the Dominion-Provincial-Municipal Grass and Clover Seed Distribution Policy and distributed to 460 farmers, 4,484 pounds of alfalfa,

19,224 pounds of sweet clover, 14,348 pounds of Brome, 7,388 pounds of crested wheat grass, 403 pounds of alsike, and 208 pounds of Altaswede. Members of the seven Agricultural Improvement Associations in the official drouth area of the district received through P.F.R.A. funds sufficient grass and clover seed for 1,224 seed plots. Considerable additional grass and clover seed was purchased outside these policies. General meetings throughout the district, and sessions with municipal councils required a good deal of time in connection with this increased interest in forage crops. In order to test the suitability of different varieties of grass and clover on lake shores, river flats, drainage ditch areas, to improve native pasture and to control soil drifting and add fibre, 55 separate seedings of mixtures of grasses and clovers were made early in the spring. The survival of the varieties, the vigour of growth, the secession of growth, tonnage and carrying capacity as well as the ability to choke out weeds and add fibre to soil now drifting badly will be watched with interest by those who are vitally interested in these matters. It might be of interest to report that crested wheat grass seeded in the fall of 1936 in the eastern part of the Province made a good stand in 1937 where conditions for germination were favourable, but where the soil was dry and grasshoppers were numerous, practically none of this grass was seen until the spring of 1938, and on one 10-acre field practically nothing was seen of the crested wheat until the fall of 1938 when a satisfactory stand appeared. This emphasizes the ability of crested wheat to withstand adverse conditions for a considerable period of time and then establish itself when conditions are favourable.

HORSES

Interest is well sustained in horse breeding, and stallions with quality and size are in demand. The stallions purchased by clubs have proved satisfactory. There are now a number of saddle horses and horses of hunter type in the Sedgewick district as a result of the Thoroughbred stallion, Mister K, being stationed at that point for five years. Until August regular shipments of horses were made from the Camrose district, but since that date there have been no shipments to the east, possibly because of lack of demand from lumbering interests. Equine encephalomyelitis made its appearance in this district about the middle of July. This disease has caused a good deal of concern to horse owners, as it appears to affect horses of any age. The spreading of this disease appears to be a mystery. Foals may be affected and the dam not; two horses working together all the time, standing together in the same stall, one may be affected and the other may not. It is estimated that not more than 2%, or possibly 3%, of the horses in the district were affected by this disease, and of those treated by Dr. Bellig only 12% succumbed. In other parts of the district I believe that the percentage of affected horses was considerably higher, and there may have been a number of local causes for this.

CATTLE

In the eastern part of the district those with beef herds have culled closely in recent years due to crop conditions, and on many of the farms all the mature cattle retained are milked to bring in a weekly cash return from butterfat. This season pastures were better and more winter feed is on hand, and more heifer calves are retained on farms. Further west more milking is done, and dairy-

ing is an important branch of farming. The open fall, with better pastures, contributed to a decided increase in butterfat production. All cattle went into winter quarters in good condition. There is a marked increase in the demand for better sires, and this office has been able to render assistance to farmers in meeting this demand through the Provincial Bull Exchange Policy, the Federal Bull Loaning Policy, and by arranging for the exchange of a large number of the better bulls within the district. The breeders of pure-bred cattle have had a difficult time during the period of feed shortage, but this year 35 Hereford, Shorthorn and Aberdeen Angus bulls were sent to the Calgary Bull Sale and 30 to the Edmonton Bull Sale. This district did not win a championship in the calf feeding competition at Edmonton this year, but they were able to win 10 of the first 15 prizes in the junior section and 6 out of the first 12 prizes in the senior section, and had 19 entries in the fat stock class. Improvement in the quality rather than in the quantity of cattle is the policy advocated.

RELIEF FEED AND SEED

Those purchasing feed and seed for relief purposes for Alberta and Saskatchewan took a considerable quantity of feed from this area. This office was able to put the buyers in touch with supplies of feed for sale, arrange for baling, and locate feeding quarters for those wishing to send breeding cattle out for the winter.

Hogs

In that portion of the district where crop yields have not been satisfactory for some years, the quantity of hogs dropped seriously in numbers. This year with more oats and barley on hand there is an increase in the number of sows that will be bred. This office has been active in securing breeding hogs for these people. The Dominion Sow Purchasing Policy was used to some extent, but the main effort was directed toward locating sows of proper type and conformation from the market hogs in the district around Camrose. Farmers in the Camrose district have organized a co-operative live stock marketing association, and this office has had considerable work to do in connection with the completing of the organization.

POULTRY

Poultry forms an important source of income on many farms, and the reasonably good price for eggs throughout the year has been a financial aid to these people. Assembling and grading of eggs at one point in a village has relieved many storekeepers of this task, and has had the effect of reducing the time required to assemble a shipment, standardize the grading, retaining the quality and advancing the price. From 20% to 25% of eggs supplied to hatcheries in the Province come from this district. While considerable progress has been made, there is still need for further improvement in breeding stock. More attention should be given to feeds for the production of high quality hatching eggs that will produce strong virile chicks. Attention should also be directed to establishing recognized uniform production ability in the breeding flocks. Any policy directed to this kind of improvement will be appreciated by those interested in establishing a reputation for high quality hatching eggs. At Camrose this year about 80,000 pounds of dressed turkeys were bought on a dressed-graded basis and 30,000 pounds of dressed poultry. From observations made it would

appear that more attention must be directed toward marketing poultry earlier in the season so that they will be out of the way before the date arrived for killing and packing turkeys. There is a decided advantage when the producer can see his own birds hanging in the cooler. He has an opportunity then of really seeing how his product compares with that of his neighbour. A good many went home determined to finish the birds they have to market another year.

FUR

Foxes and mink are increasing in numbers on farms. They require careful attention to detail in feeding, breeding management and fitting, and as a rule the farms that have been successful with good live stock are finding these fur-bearing animals profitable.

BEES

It is now pretty well recognized that bees are not, as a rule, particularly suited to the brown soil zone, but are increasing in importance in the black soil zone. In the latter area where hives have been properly supervised the production has been satisfactory.

JUNIOR WORK

Direction was given this season to the activities of 14 grain clubs with a membership of 248 boys. The required number of meetings were held in each club and a seed fair was conducted at each point. All the clubs west of Jarrow, Loughheed and Forestburg held their summer meeting at the Dominion Experimental Station at Lacombe. The balance of the clubs attended the field day at the Sub-Experimental Station at Metiskow. The officials in charge of the Lacombe Station were very generous with their time, and they helped greatly in making the day well worth while for club members and their friends who journeyed to Lacombe. Dominion-Provincial Youth Training Schools were held from the 23rd of January to the 4th of March in Ryley, Killam and Provost. There was an average attendance of 180 students at each of these short courses. The fact that these young people spent two weeks living together while attending these short courses has done a great deal towards making friendships and developing a community spirit amongst the young people of their respective districts. The course of study was very much appreciated, and some very complimentary remarks have been heard about the efficiency of the staff in charge of these schools. This office has had considerable work in connection with other activities under the youth training programme, and a number of boys who have taken other courses have been able to get established in a type of work for which they were suited. Those who were chosen to take the courses at one of the Schools of Agriculture were indeed grateful for the assistance thus received. Most of the boys who went out on farms have been able to get the necessary training to qualify for permanent employment. This fall Holstein and Ayrshire dairy calf clubs were organized in the Camrose district, and one of the features in this organization that might be mentioned is that we are having the club members weigh the milk of the home herd and come under the rules and regulations of the Provincial cow testing work. So far the members of the club are enthusiastic about this phase of the calf club work. This year, 11 school fairs were held in the district, and I assisted with the judging at all of them. I also assisted with the transportation of the school fair

winners in this district to and from Vermilion. A very satisfactory young peoples' camp was held in connection with the Camrose Exhibition in July; 45 boys and 35 girls were in attendance. Miss Lee had charge of the girls and Mr. F. H. Newcombe assisted me with the instruction of the boys, and I was able to get away to help Mr. Newcombe with his camp at the Red Deer Fair.

FIELD DAYS

Field days have proven to be an effective method of introducing approved practices to a number of people in an attractive form in a short time. To do this requires planning well in advance of the field day. In the range area north of Neutral Hills a field day was held on the Sidey Ranch. Here the visitors could see grass and clover mixtures that promised to cut one and one-half tons per acre (and actually did cut heavier than this), and beside these crops, the native growth which did not cut a ton from 10 acres. Grass and clover mixtures and methods of seeding were discussed, and people went home feeling that there was a good chance of growing feed and improving pastures if they followed the same methods. The Sub-Experimental Station under the P.F.R.A. at Metiskow, which serves all the Agricultural Improvement Associations in the eastern part of the district, has been able to demonstrate that once a cover crop is established, stands of forage crops can be obtained even in the presence of grasshoppers, cutworms, wireworms and drouth. The illustration stations at Consort and Chauvin are attacking many of the problems of the people in their respective districts. The attendance and interest shown at field days is now most gratifying. Live stock improvement is following rapidly on the heels of pasture improvement and feed production work.

NEUTRAL HILLS LIVE STOCK BOARD

This live stock board is made up of representatives from Agricultural Improvement Associations in the north and central portion of the official drouth area in the eastern part of the Province. The members of the Agricultural Improvement Associations have definite problems, and these problems relating to live stock are brought to the live stock board and the general method of attack is agreed upon. One of the big projects undertaken by the board was the circulation of petitions requesting that the whole area be included in one large tuberculosis free area. The people are unanimous in wanting this, but the task of getting the petition actually signed was a big one. The warble fly and bot fly eradication campaign was also an important project undertaken by the Board. An auction sale of surplus cattle in the fall was carried out with success. From the experience of this year's efforts along this line, this method of selling may gain in popularity in areas where a quantity of surplus cattle, lambs and horses can be assembled.

TUBERCULOSIS FREE AREA

Eleven municipal districts in my territory, but outside the official drouth area, have undertaken to circulate petitions requesting their inclusion in the tuberculosis free area. In six of these municipalities the canvass is completed and the farms are in the hands of the Provincial Minister of Agriculture, and in the other five the work is well advanced.

GRAIN AND SEED CLEANING PLANT AT CAMROSE

During the past year the following quantity of seed was cleaned at the plant: Wheat 11,694 bushels, oats 9,588 bushels, barley 2,615 bushels, rye 3,452 bushels, flax 1,602 bushels—total 28,951 bushels; alfalfa 9,478 pounds, sweet clover 4,865 pounds, crested wheat 31,645 pounds, brome 19,863 pounds, creeping red fescue 1,300 pounds, Altaswede 2,235 pounds, Western rye 235 pounds—total 69,621 pounds. The large quantity of grass and clover seed cleaned indicates the interest in this type of cash crop. It also draws attention to the fact that a marketing organization made up of those who are growing grass and clover seed might well be organized with a central selling agency to dispose of the surplus seed. Local marketing organizations would be in competition with each other, and this might be a detriment to the industry.

AGRICULTURAL ASSOCIATIONS

The success of the Agricultural Improvement Associations in the official drouth area in directing united effort towards the solution of the problems peculiar to the area, points to the possibility of Agricultural Associations organized in other parts of the Province directing united effort towards the solution of problems which to them are vital.

THORSBY DISTRICT

(P. WYLLIE)

In the territory served by this office lie two different soil types, each one requiring different methods of handling. The dividing line between the black soils and the grey wooded soils passes north and south through the Thorsby district. To the east of this line work is confined to improvement in quality of present crops and live stock, while west of the line work has been centred on the development of crops other than cereals.

The grey soils are not adapted to growing a good quality of wheat, and do not produce heavy yields of coarse grains. During the past year this office has devoted considerable time to development of pasture crops and soil improvement in the grey soils.

In the eastern part of the territory, Leduc, Millet and Wetaskiwin, fair crops were produced this season, but in the western area yields were not high, due partly to dry conditions and partly to the type of soil. The winter of 1937-38 saw a very light covering of snow, which disappeared early in the spring and permitted early preparation of the land. Crops were sown in excellent condition and germinated rapidly, but from this point onward growth was retarded by the driest spring and summer experienced during the past few years. Precipitation from April 1st to the end of July amounted to only 4.82 inches of rainfall, as shown by the precipitation records kept at the Thorsby Meteorological Station:

PRECIPITATION RECORDS

Month	1936 inches	1937 inches	1938 inches
April	1.00	1.04	.90
May	2.94	1.42	.44
June	.80	1.31	1.36
July	1.92	6.53	2.12
August	1.79	1.82	4.89
Totals	8.45	12.12	9.72

August rains were too late to materially increase yields of the grain crops. They did assist the second cut of forage crops and improved fall pastures.

Crop yields and prices were disappointing this season; estimated grain yields are: Wheat 20 bushels, oats 36 bushels, and barley 22 bushels. Practically all wheat has been marketed, but coarse grains still remain in farm granaries, and will remain there to be fed to live stock if present low prices for coarse grains continue.

Improvement is noted in the quality of grain being sown and grown. More interest in good seed was evident this year. Another noticeable development is the amount of land that was cleared and broken in 1938, particularly in the grey soil area. A considerable acreage was broken on nearly every farm.

Road conditions both winter and summer have been excellent in this territory, and has given this office a splendid opportunity to visit many points in the territory that could not otherwise be visited in normal seasons.

LIVE STOCK IMPROVEMENT

Horses.

Assistance from this office was given mainly towards the organization of stallion clubs under the co-operative purchasing plan. Four new clubs were organized at the beginning of the year, at Loneridge, Falun, Genesee and Lindale. This brings the total known stallion clubs in this territory to eight, one Federal club and seven co-operative purchased stallion groups.

Some of these clubs are starting into their third season, and it is pleasing to note the satisfaction among the members of these groups as to the type and quality of young stock they have obtained as the result of a club being formed.

Cattle.

Interest in cattle improvement is on the upgrade, judging by the requests received at this office for pure-bred sires.

This season improvement work was confined chiefly to the promotion of the Bull Exchange Policy and assisting in arranging for the shipment of the old and new bulls under the policy. Ten farmers completed the transaction and now have the pure-bred bulls on their farms.

Other farmers showed an interest in the exchange policy, but owing to crop conditions and prices decided to wait another year before taking advantage of the policy, hoping that the policy would be carried on in 1939.

Early in the spring a set of cattle de-horners were sent to this office, and we are pleased to report that 36 farmers have used this instrument to de-horn 252 head of cattle. This service has been well appreciated by farmers from Leduc to Breton.

Swine.

Keener interest is taken in swine raising than other phases of the live stock industry. Good prices and large supply of coarse grains led to a big demand for breeding stock. Throughout the whole year this office assisted in the locating of better breeding stock for farmers. Many requests were received for pure-bred female stock.

Three new boars were loaned by the Federal Department of Agriculture to the new swine clubs established this season. Under

the aid of the Blindman Valley Shipping Association, this office selected and placed a number of pure-bred boars with farmers in the territory. A number of farmers were encouraged to attend the fall sales and given assistance in selection of breeding stock.

Interest has not been confined to breeding stock alone. Farmers are inquiring more and more about mineral and supplementary feeds, as well as plans for newer type housing equipment.

A decided improvement in the quality of hogs marketed is anticipated, as well as a tremendous increase in numbers, judging by the number of breeding stock retained on the farms at the present time.

Sheep.

As we become acquainted with this territory, many small flocks are noticed on farms in the district. It is our intention to give more time to this phase of the work during 1939, particularly in the grey soil areas. These districts are well adapted to growing of forage crops, and should provide a good supply of cheap fodder both summer and winter.

CEREAL CROPS

Announcements made with respect to changes in the grading of Garnet wheat brought about a demand for other varieties. An unsuccessful attempt was made to secure sufficient orders for a carload of Certified Red Bobs 222. About 600 bushels were spoken for, but this was not sufficient to make up a carlot, and the project was dropped. Red Bobs has been used to a large extent to replace Garnet.

This office assisted a number of farmers to purchase small quantities of certified seed. In this work we were assisted by the elevator agents in the territory. Small acreages of registered oats and barley were sown. The seed problem will not be as acute next spring. Supplies of pure seed are available in the territory. Under existing grain prices we do not look for any great demand for good seed next spring.

Some damage by cutworms occurred in the Thorsby district. In several fields losses ranged from 60% to 100%. Considerable re-seeding was necessary. As far as this office could ascertain, the damage was confined mainly to spring plowed land. Fall plowing and summer-fallow were practically free from damage.

Weeds continue to present a problem, but it is hoped that with the promotion of a forage crop programme and a tightening of existing weed regulations, this problem may be partially solved.

FORAGE CROPS

We are fortunate in this territory to have some experimental work carried out at Breton by the Department of Soils, under the direction of Dr. Wyatt. At Mr. Ben Flesher's farm near Breton experiments are being conducted with crop rotations, legume crops and fertilizers. The work carried on at this point has been valuable to this office in our efforts to further forage crop work throughout the territory.

At this station it has been shown that the grey soils are deficient in nitrogen content, and by adding ammonium phosphates or ammonium sulphate the yields of legume crops can be doubled. The effect upon grain crops is not so marked, although slight increases in yields can be obtained. However, by growing a legume crop

and using fertilizers satisfactory increases in yields are noted in grain crops grown later on the land. It is also noted that by growing legumes the grey soils become easier to work, with less tendency to bake after heavy rains.

Keeping the results experienced at this station in mind, our work with forage crops has been directed largely along the lines of soil improvement and crop rotations, with very little emphasis being placed on wheat growing.

Some encouragement has been given to the growing of forage crop seed. The results are very encouraging. Many farmers report greater returns per acre than could ever be obtained from growing cereal crops. An increase in the acreage devoted to seed production is expected next year. During this year 22 farmers produced over 51,000 pounds of alfalfa, Altaswede and alsike clover seed.

Several meetings were held to discuss the formation of a seed growers' association in the territory from Sunnybrook, Warburg, Breton, Alsike and Lindale. Plans are being laid at the present time to develop a co-operative forage crop seed growers' association.

In the black soil belt forage crop work has been devoted to the distribution of forage crop seed through municipalities for pasture, fodder and weed control purposes.

The Dominion-Provincial Forage Crop Seed Distribution Policy is considered by this office as one of the most applicable policies for the territory. It has been instrumental in forming many contacts for this office, and at the same time doing a type of work that is needed in the district.

In 1938, under the Forage Crop Seed Distribution Policy, 304 farmers received a total of 13,378 pounds of seed, consisting of 5,932 pounds alfalfa, 2,043 pounds Altaswede clover, 1,495 pounds sweet clover, 1,065 pounds timothy, 2,675 pounds brome, 135 pounds alsike clover, and 33 pounds crested wheat grass.

In Liberty Municipality, 59 farmers received 3,193 pounds of forage seed; in Pioneer Municipality, 95 farmers received 3,200 pounds; in Bigstone Municipality, 62 farmers received 3,080 pounds; and 88 farmers in Local Improvement Districts 461, 462 and 491, received 4,000 pounds of seed, which was handled and distributed direct from this office.

BOYS' AND GIRLS' CLUB WORK

The activities of six junior clubs was supervised by this office during the year. Three new clubs were formed, swine clubs at Falun and Pendryl and a grain club at Thorsby.

This office arranged for and attended 18 meetings, 2 field days, and 5 achievement day fairs for club members, and visited every member of each club at least once during the season. The judging of the standing crops for Leduc and Thorsby Wheat Clubs was done from this office.

Name of Club	Number of Members	Number of Members who completed the Project
Liberty Swine	17	16
Pioneer Swine	21	13
Prosperity Swine	12	11
*Progressive Swine	13	
Leduc Wheat	17	8
Thorsby Wheat	18	12
Total	98	60

*Progressive Swine Club unable to finance a full programme this season, and did not have the achievement day fair.

All members of live stock clubs and Thorsby Wheat Club took an active part in club work. Swine club fairs were quite successful and, as in former years, a number of good breeding gilts were sold to farmers in surrounding districts.

With the grain clubs this office follows the practice of arranging an extra meeting when seed grain arrives for distribution. Arrangements are made for treating the seed before it leaves for the various farms. Members take an active part in the handling and treating of this seed with mercuric dusts for smut prevention.

One swine club team was selected and trained for the Provincial elimination contests. Francis Blondheim and Lloyd Cook, representing the Liberty Club, were successful in winning the trip to Toronto. Further training was given to this team before leaving for the east. They stood fourth in the Dominion competitions.

Club members were encouraged to attend the Boys' and Girls' Camp at the Edmonton Exhibition. Fourteen members from the different clubs sent in their applications; nine were accepted, and later attended this camp.

FIELD DAYS

Several field days were organized or assisted by this office. In May, a beekeepers' field day was held at Thorsby with Mr. Hillerud in charge. A practical demonstration and talk on the method of handling bees was given at Mr. Meditsky's apiary, and a lecture in the Thorsby hall in the evening.

During the summer four general field days were sponsored and assisted, at Falun, Winfield, Buck Creek Community and Calmar. Officials from the Department of Agriculture and the University of Alberta assisted at these field days. The writer also attended the Feeders' Day at the University, Clydesdale field day at Lacombe, University field day at Breton, and assisted Mr. Murray and Mr. McPhail of Olds at a field day near Beiseker.

MISCELLANEOUS

Besides the junior club activities reported elsewhere, eight meetings were held in the spring to discuss the seeding and handling of forage crops. This was done at the time seed was distributed. Thirty-six other meetings were addressed throughout the year.

Assistance was given from this office in judging junior classes at the Camrose fair in July, and the live stock and poultry at the following school fairs: Thorsby, Calmar, Leduc, Millet, Wetaskiwin, Pendryl and Tomahawk.

Upon instructions from the Department, assistance was given in supervising the activities of the boys' camp at the Edmonton Summer Exhibition. Assistance was given in this work by Mr. Wood.

In December some aid was given to the local committee at Breton in organizing a short course school under the Youth Training programme. Stockmen were encouraged to attend the spring and fall sales at Edmonton, and assistance given in selecting suitable breeding stock. It is encouraging to note an increase in demand for services from this office. While no record has been kept of the number of visits, I am sure that at least twice as many farmers have called at this office as compared to the period when the office was at Leduc. I feel that fine co-operation has been given to this office in the work during the past season.

STATISTICS

Car mileage, 12,140. There were 1,710 letters and ten notices mailed from the office. A good supply of bulletins are kept at headquarters for distributing purposes. Bulletins are carried while visiting the various districts and distributed as need arises. No record has been kept as to the number of letters received at this office.

WILLINGDON-MYRNAM

(F. MAGERA)

It is a pleasure to present this resumé, since invariably the services rendered and projects undertaken were much appreciated by the farming communities and individuals concerned.

The fall of 1937 ushered the fields into winter-rest with only a moderate amount of soil moisture. The spring, though early, was disappointing in that insufficient rains fell to assure robust growth. The territory west of Andrew especially was beset by a prolonged dry spell. In the eastern portion, in the district of Two Hills and Myrnam and south, considerably more rain fell resulting in a fair crop.

Besides the rather dry spring, this territory experienced three additional hazards. Likely for the first time in the history of this area general soil drifting damage was suffered, as a steady, strong wind churned the territory into a cloud of dust. The ravages of the red back cutworms were very marked in many fields. About harvest time a heavy infestation of stem rust made its unusual appearance, causing some damage to the wheat heads and making the straw less acceptable for feed. These three last mentioned items bring to the fore that the north part of our Province faces a possibility of such damages as are not commonly admitted as serious. This suggests that certain precautionary measures need be kept in mind in planning extension work. No wheat stem sawfly or grasshopper damages were reported.

Harvest brought a more bountiful crop than in 1937. The quality of the wheat was about one grade under that of the previous year. Generally there is a goodly supply of coarse grain and long feed, as well as sufficient seed to carry the farmers safely into the 1939 crop season. Frostless, late autumn allowed for maturing of small fruits and vegetables, so that the homes are well supplied for the winter.

FIELD CROPS

In pursuing an objective of economical and permanent farming, this office attempted to arrange a programme of meetings and collaborated in projects with this in mind. Working on the thesis that soil moisture is the limiting factor in crop production, an attempt is made to impress the value of proper and timely summer-fallowing, of weed eradication and of crop rotation. Wild oats will continue to be the most costly item in decreasing yields. Large, heavily infested areas continue to suffer from the marked toll of soil moisture exacted by this weed. The problem seems to be, "How to get the man in the field to realize the magnitude of this deterrent." As yet this is something to be achieved, but by what more effective methods we are not prepared to prophesy.

Of the cereal crops, Red Bobs 222 is invariably grown. Garnet has been almost totally eliminated and replaced by this variety.

Though stem rust was very heavy and a considerable loss was suffered, it is believed that Thatcher wheat has had its "run" and will be most likely dropped.

O.A.C. No. 21 barley is still the old "stand-by." Some attempt is being made to introduce Olli variety. Two growers were contracted with the Canada Malting Company to grow trial carload lots of this early barley. Encouraging yields and features were reported. Victory oats has been widely introduced. The pollution with wild oats brings about a seed problem every year.

JUNIOR GRAIN CLUBS

A very desired kind of help in crop improvements is rendered by the junior grain clubs. Nine clubs carried on this valuable work. Three new clubs were organized (Derwent, Two Hills and St. Michael) in strategic districts to help introduce pure seed of desired variety and develop a crop of potential seed growers. From the plot judging score cards a record was made of all plots that were pure, and this information circularized. Purchase contacts were established for prospective seed growers. Four farmers were "lined up" to grow small acreages of Howard Wright's registered Red Bobs 222 for the coming year. Seed growers are being helped, encouraged and started so that a more general local supply of certified and registered seed may be had in the future.

Much interest is being shown in exhibiting grain at the Provincial, Toronto and Chicago Fairs. This year a commendable list of "expert showmen" asserted themselves both in the junior and open classes. Lastiwka Brothers vied in all cereal classes, taking second in oats at Toronto and Chicago and third in barley at both shows. In the junior classes at Toronto most of the oats and barley awards were taken by the Willingdon and Andrew Grain Club members. It is hoped to project into the registered classes as seed growers are established.

During the 1938 season much time had to be devoted to supervising this array of clubs. A judging team, taking second place, was trained, and the usual routine of meetings, field days and fairs was carried out. A much appreciated itinerary of demonstrations and lectures, with seed models, on preparation of show samples was given in my territory by Mr. Hallman of the Field Crops Branch.

Assistance was given in the crop testing plan on field days. This concentration of farm fields into a small lot is proving a valuable demonstration as to the shortcomings in a district.

Forage crops are not as keenly appreciated as this major project merits the serious attention of the growers in the farming programme. The growing of brome, with a few fields of alfalfa, is practiced mostly as a feed supply. No rotation including legumes and grasses is practiced. Two municipal districts took advantage of the Dominion-Provincial Forage Crop Seed Policy. Circulars were prepared and meetings addressed in these localities, but it is doubtful whether the time is opportune to vigorously and more extensively force this policy until such time as more "spade-work" is done.

DOMINION-PROVINCIAL YOUTH TRAINING SCHOOLS

It is felt that of inestimable value are the contributions made to young people by the Dominion-Provincial Youth Training Programme. Since its inception, one two-weeks' short course for rural

youth was held at Willingdon. This year arrangements have been completed for two more such schools (Andrew and Myrnam) in February, 1939. By a process of rotation it is hoped to bring these schools to all centres, providing economical courses in Agriculture, Household Economics and Social Problems to all youth that wish to avail themselves of the privileges of adult education.

Andrew and Willingdon towns took advantage of Schedule "F" of this programme and organized physical culture centres.

This office also investigated and helped boys and girls in contacting respective officials in other individual privileges rendered by various schedules of this programme.

BOYS' AND GIRLS' CAMPS

An attempt was made to utilize the boys' and girls' camps at Edmonton and Vermilion Exhibition as a means of recognition of meritorious work in live stock and grain clubs. Girls were also selected from areas not served by clubs to apply for camps.

SCHOOL FAIRS

Only one school Fair was held in this territory. Schools in this circuit were canvassed prior to the Fair. Two other areas are being organized. Judging assistance was given at the Vilna and Bellis fairs.

The experiment with junior agriculture school fairs, as tried at Vilna and Bellis, seems to merit more attention, and if permission is granted such Fairs will be organized in centres where more agricultural exhibits are in order.

SCHOOLS OF AGRICULTURE

Some time was devoted to encouraging applicants to attend the Vermilion School of Agriculture. At the Andrew Jubilee a demonstration booth was conducted, with Mr. N. N. Bentley of the Vermilion School of Agriculture interviewing prospective students.

HORTICULTURE

The older stock of Ukrainian and Roumanian population in this district has lived in orchards in their native lands, and the problem of fruit trees and ornamental plants is a very close one. Every farmstead and village resident cultivates a large garden, and is anxious to establish in connection a small orchard of large and small fruits. This desire has been exploited at times by irresponsible nursery stock pedlars, who sell any variety irrespective as to hardiness of top or root stock, or as to the value of the fruit. This undesirable practice has developed a feeling that fruit trees cannot be successfully grown. To encourage horticulture, garden clubs of young women and girls have been started at six centres with the idea of demonstrating to the women folk the growing from seed (later budding and grafting) of fruit trees of proved, useful, hardy varieties, and have these clubs serve as nuclei centres for demonstration of home ground beautification, farmstead planning and wind sheltering. It is hoped that with the aid of the Brooks Horticultural Station that model orchards will be established at some of these places. The orchards of Mr. William Salamandyk, Vegreville, and Mr. William Fedun, Krakow, produced an exceedingly fine and heavy crop of apples, plums and cherries. The cucumber crop was over the local requirements. Watermelons also ripened well.

BEEKEEPING

Beekeeping is well established in this territory. There are approximately 200 small apiaries of one to five colonies, with only a few slightly larger establishments. The honey is consumed locally. Two beekeepers' meetings and demonstrations were held at Myrnam and Mundare, with Mr. Hillerud, Provincial Apiarist, in attendance. Key beekeepers in various districts help in ordering and supplying bees and supplies and in starting amateurs. As an inspection of colonies was planned by the Apiculture Department, it was thought sufficient individual assistance would be thus given so that no special extension work was carried out.

LIVE STOCK

This area, especially on rougher, less productive places, is destined to carry on as a "mixed" type of farming on a moderately small scale. The increasing density of the population suggests smaller farms and more intensive utilization of the land. Live stock improvement work will continue to be a major feature in this period of transition from beef cattle and no dairy or poultry to some combination of good milk cows, profitably conducted poultry plants, and a good-sized herd of pigs to utilize farm grown grain, forage crops and pastures. Live stock is raised as a side-line, and it is doubtful whether some branches are profitable. Wherever one finds more progressive farmers who are fully and economically utilizing the land resources at their disposal, a demand for dairy cattle to replace the beef types is in evidence. More concentration on hogs and some poultry is the trend. It appears that our extension work should be directed in that direction likewise.

Horses.

This area is admirably suited to horse raising in that the Ukrainian farmer, since the Cossack days, is a lover of good horses. There is always some rough land on most parcels that is best utilized as a grazing lot for the necessary motive power animals on each farm. Lastly, the former District Agriculturist, Mr. Pid-ruchney, developed in this territory the community idea of horse improvement to a very praiseworthy degree. Now every corner is alive to better horses, and sees this improvement more certain and economically fulfilled when conducted as a community venture, similarly as are schools and churches.

A goodly block about Willingdon is well filled with group stallions. During the coming winter, attempts will be made to organize groups east (Two Hills-Musidora) and west (Andrew-St. Michael) of the Willingdon block. During the winter of 1938 groups were organized and stallions bought for Northern Valley, Myrnam, Kaleland, Boian and Highway. This fall Shandro, Lavoy, New Kiew and Cadron groups have purchased stallions. Many private purchasers brought in good pure-breds. The problem of replacing stallions in six groups is on the 1939 programme. Most of the winter and early spring is devoted to this organizational work. Office assistance is given groups in drawing up contracts and bylaws and circularizing the farmers about meetings.

Some assistance of a technical nature is given Federal clubs as enquiries come in. A further attempt is made to introduce pure-bred females about the good stallions. Three fillies were brought on order from U.S.A. into the district. The low price of grain made expansion injudicious along this line this year.

Cattle.

Beef cattle, used as general purpose animals, are the common sort of cattle utilized. Shorthorns predominate, though some Hereford blood is scattered along the Saskatchewan river.

Considerable time this summer and fall was devoted to carrying out the Bull Exchange Policy programme. Sixty-seven bulls were brought in under this policy. A goodly sized list awaits the 1939 season. There is a fair number of small pure-bred herds developed from former Shorthorn calf clubs. This office helped in registration and finding exchange or sale contracts. Eight pure-bred cows and heifers were purchased. It is hoped to expand along this line considerably.

Dominion bulls are completing their terms this year. A live stock improvement centre is being organized at Primula, and three bulls are being loaned there.

Only a moderate start of purely dairy type cows is in evidence. Dairy calf clubs are planned about the Andrew and Vegreville creameries. Assistance was given during the Vegreville Field Day (Dairy), and in organizational work about the Andrew Creamery.

In collaboration with the Lamont Health Unit, a T.B. free area is being organized including the Eagle, Leslie and Wostok municipalities.

Swine.

Pigs in this area are either considerably of the old type or the "over-slenderized" type. The latter situation is the more difficult to correct. In the eastern section of my territory most of the improvement work is done through four swine clubs. Two new clubs were organized and the territory of old clubs enlarged. About a dozen Dominion boars are loaned to this area.

In the territory about Two Hills and west, swine improvement work is carried on in collaboration with the Dominion Live Stock Branch. Sow distribution centres are being established. The Dominion fieldman, live stock buyers and this office are co-operating to place more thrifty bacon gilts in groups where the Dominion Department of Agriculture give a boar outright.

Throughout the territory likely pure-bred breeders have been selected and pure-bred gilts and boars purchased for these men, hoping thus to have a supply of controlled breeding stock for further improvement work. This being a new field for many farmers, considerable time had to be spent in selecting stock, starting records, tattooing, and registration.

Much pure-bred breeding stock was in demand, and we were unable to fill requirements, though a number of buying trips were made to centres where breeders are located. The shortage of good boars is much felt. Hog raising definitely is on the increase with requests coming in for the "easy-doing" thrifty types.

A number of trips were arranged to get data on piggeries and ventilation and to attend feeders' day, fall sales and to visit breeders. As an outcome of these ventures a piggery was built at Pathfinder and one started at Krakow of the design approved by this Department.

The Dominion Live Stock Branch is doing considerable improvement work in this territory. It was a pleasure to assist in bull and boar inspection and help in salvaging boars. The few

pure-bred centres that were established were with the aid of the Branch. Sow distribution work, boar and bull loaning, culling and selecting, placing of grade and pure-bred sows, training of live stock buyers to turn back good gilts, was done with the co-operation and very willing assistance of the fieldman of this Branch.

Sheep.

Sheep are incidental in this area. The office is occasionally requested to help in purchasing rams for the small flocks that are kept to supply wool for home manufacture of rugs and yarn.

POULTRY

Poultry is raised on every farm, but in quality much remains to be done. Few flocks are so cared for as to be a profitable enterprise.

Looking for a possible start to help in improvement work, about 1,000 chicks were placed early at Myrnam and Willingdon. These were started under the supervision of the Poultry Branch and have proved quite successful as models, bringing about more enquiries as to preparations for the coming season.

There are many enquiries that this office has to answer with regard to poultry diseases. Whatever assistance was possible was given. Orders were placed for chicks, chicks started, and programmes were outlined.

Turkeys are commonly raised as indicated by the large Christmas shipments of dressed birds. Demands are coming in for assisting in the purchase of foundation stock.

Ducks and geese continue to be raised for the downy feathers used in pillows and ticks.

Planning assistance was given for a number of poultry houses and brooders.

VETERINARY ASSISTANCE

Of all items, veterinary assistance in emergency cases is the most popular that this office has to deal with. Services of a veterinarian seems eminent. Dr. Talbot, Dr. Grunert and Dr. McEwan were of much help to suggest means of assistance.

Early in the winter we had an appearance of "measley" pork suggesting human tapeworm. Much supervising of hog sales had to be done to have a check as to territory involved. Other hog diseases appeared periodically.

The major problem of the summer months was equine encephalomyelitis. A heavy loss was suffered, especially in the area between Andrew and Two Hills. The incidence of deaths was appalling. It was a major calamity, demanding much time expressing condolence with little helpful advice. Much misunderstanding as to vaccination arrangements and procuring of vaccines was experienced, and it is now planned to get much preliminary work done in early spring to forestall heavy ravages of this disease and racketeering in vaccination work. Brains of dead horses were removed and shipped for manufacture of vaccines. Help was given to select men to do the vaccinating work, and municipalities were encouraged to carry out a programme of immunizing their horse population.

MISCELLANEOUS

Office routine takes up much time. An attempt is made to be "At Home" on Saturdays and Mondays to attend to visiting farmers. Correspondence and circularizing requires stenographic assistance and considerable picking on the typewriter.

ST. PAUL DISTRICT

(J. M. FONTAINE)

The 1938 crop season in this district, contrary to the average of the Province, has been rather unfavourable to a good yield. Wheat has given only 17 bushels to the acre, grade varying from No. 2 to No. 5, the majority being No. 3. Low grade samples are due to second growth, which was most prevalent over this district. Coarse grains were only two-thirds of a normal crop.

Precipitation for the whole summer has been rather normal, 12:58 inches, but distribution over the growing period not of the best.

2nd week	3rd week	4th week		April	
.04	.03	.23	last 3 days	1st week in May	.99
.06	.28	.10	last 4 days	1st week in June	.02
.49		.60	last 4 days	1st week in July	.74

This accounts for low yield and low grade, prices being only about half of what they were a year ago. The farmers in general are not in very good financial standing, except those who are keeping hogs. No shortage of feed or seed, however, will be found in this district this coming winter and spring. The native hay is getting gradually replaced by seeded forage crops which enter the crop rotations little by little.

One municipality took advantage of the Forage Crop Policy in the spring of 1938. One more has applied to the Government to be included amongst municipalities to be supplied with forage crops seed in 1939. One improvement district (601) is also falling in line.

There were quite a number of meetings held this year at which numerous topics of better agriculture were discussed, especially the use of high quality pure-bred sires on our farms for all classes of live stock, and better crop rotations to retain fertility in our soils and restore fibre which is gradually decreasing and very apparent. Live stock feeding has also been dealt with in order to reduce the cost of production. Ever since this office has been opened, agricultural bulletins were kept for distribution. We have on hand over 150 different bulletins from the Dominion and Provincial Departments of Agriculture and different Universities. Close to 1,000 of the said bulletins were given the farmers, who would either write directly for same or else they were sent away to replace lengthy letters in reply to letters of information.

LIVE STOCK IMPROVEMENTS

As we are getting more and more convinced that this north-eastern part of the Province is very adaptable to mixed farming, no effort is being spared by this office to undertake live stock improvement work.

This district, however, is heavily settled with farmers who have been here since the opening of the region, mostly homesteading then. They have had a hard struggle opening their farms and building their homes. The majority of them have never read enough to learn what was taking place outside of their area. They were trying to get along the best they could without planning for the future.

They were not fortunate enough in having schools of agriculture, experimental farms or even the example of real good pure-bred breeders in their midst. Therefore, scrub sires have been

in honour on most of the farms, and even today it is a common belief in some settlements that scrub sires will have a progeny where pure-breds will fail. It seems that much of what is being done by bringing in pure-bred sires is being spoiled by others who are still indifferent to the improvement of live stock, and who use and promote the use of scrub sires. It is to be hoped that some definite and efficient policy to overcome this will be put on the statute books of this Province at an early date.

Horses.

There are about 10 grade stallions for each pure-bred one. Needless to say that they are well patronized. In fact, I found that last year some grade owners have been responsible for the incomplete organization of a couple of stallion clubs under the Stallion Group Purchasing Plan. We have had full co-operation from the R.C.M.P. in trying to stop the use of said grade stallions, at least in districts where we had organized stallion clubs; 42 letters were addressed to grade owners in a radius of 20 miles, but no prosecution took place, as complainants did not wish to testify in court against their neighbours. Some grade owners go as far as selling shares to their neighbours to become joint owners and thinking thereby to meet the requirements of The Stallion Enrolment Act, being unaware of the last amendment to the Act.

In spite of all these fraudulent schemes, we have succeeded in organizing six new clubs under the group purchasing plan, and re-organized one which had been in existence since 1935 by replacing their stallion.

One individual purchase has also been made through this office. Two of these horses are Belgians and the other six are Percherons.

In order to promote the use of better stallions we have, through the local press, notified every grade owner that enforcement of The Stallion Enrolment Act and prosecution will take place at the first conviction this coming season.

Horse Diseases.—The encephalomyelitis did not spare this district. In fact, quite a number of horses died from it. The local veterinarian estimates that the said disease has been fatal to approximately 400 horses. It is feared that a worse outbreak will occur this coming year, therefore it may have a bad repercussion on our desire to organize as many clubs this year as last. However, we have already been invited to help organizing in four places, but we are waiting for a list of stallions for sale.

It is encouraging to note that all clubs organized last year seemed to give entire satisfaction.

Cattle.

Cattle improvement work is rather slow. Scrub sires are kept on nearly 98% of our farms. This is due to a lack of education and lack of contact with farmers obtaining good results by the use of a high quality pure-bred sire. Another factor is also the introduction of dairy bulls on farms where no definite desire or arrangement for dairying existed. These bulls have done more harm to the live stock industry than could be imagined. Prices of pure-bred bulls have also been too high for the average farmer of the district. This explains the reason why quite a number of associations were organized in this area and applied to the Federal Department of Agriculture for pure-bred sires under the Bull Loan

Policy. Unfortunately, many associations were turned down in their request.

The Bull Exchange Policy has not been encouraged to a great extent by this office, and drovers criticized it considerably. Ignoring the quality of the bulls that would be bought and given in exchange, we did not want to insist that very many take advantage of the policy. Twenty-four bulls were brought into the district, and all delivered in good condition. It is to be hoped that they will turn out to be good individuals and sure breeders. If so, we expect quite a number of exchanges next fall.

Dairying is gradually and steadily increasing. The quality of the cream delivered to our creameries is also improving; 30% more butter was manufactured in our local creameries than last year. This is not entirely the result of better cows, but of more cows being milked. Too many inferior quality cows occupy a major place on our farms today. There is a great improvement to be made in that line. I believe that cow-testing would be a great help in improving the situation. Already some keymen throughout the district have been approached, and we are confident that an important number will undertake that work in 1939.

Breeds of Cattle.—As previously mentioned, scrub sires being in honour throughout the district, the main breed of cattle is mongrel with no definite characteristics of any breed. Farmers using pure-bred sires are mostly interested in dual purpose Short-horns. We are of the opinion that it is the only breed for the people who are milking cows but who have not yet started a crop rotation which will supply an ample quantity of leguminous hay for feed, and who have not the proper barns suitable for dairy cattle.

Around Bonnyville, where three Ayrshire bulls have been loaned by the Federal Government and where farmers have taken advantage of the Forage Club Policy, we are planning on starting a dairy calf club of the Ayrshire breed, and start cow-testing on each farm of every club member.

Very few farmers are raising straight beef cattle. We know of only two herds of Herefords and one of Angus.

Sheep.

Interest in sheep is lacking in this district. In fact, there are only a few small flocks scattered throughout this whole area. Dogs and coyotes being a serious menace to this industry, it stands to reason why it has not developed more than it has done. Another factor which keeps in check this class of live stock is the high price of fencing. However, two breeders of this district contribute to the ram sale in Edmonton every spring. The quality of the Hampshire is not to be overlooked.

Only four pure-bred rams were bought through this office during last year. Their quality, thickness and blockiness were an eye-opener to the farmers who saw them.

Swine.

Our district, by its climatic conditions and soil properties, being so well adapted to mixed farming and hog raising falling so well in line with dairying, no time or energy has been spared by this office to improve the quality of hogs.

Our policy has been the same as last year, that is, to select the breeding stock for farmers at their request on their own farms, or at the local stock yards. It is most gratifying to note that the 357 gilts selected this year in the St. Paul district for breeding purposes were in nearly every case the progeny of the gilts selected last year.

Having devoted most of our time in this work to the bigger centres during the fall of 1937, in 1938 we concentrated our efforts in outlying districts where the quality of hogs was the most undesirable. The Federal Department of Agriculture has given 17 good type boars in St. Paul and 11 in the Falher and Donnelly districts. While mentioning Falher, I wish to note that on our arrival in the district in October last we had 11 pure-bred boars castrated. These boars, even if they were pure-bred, showed characteristics of poor feeders, cat hams, fish back, high legs, etc. This particular item highly demonstrated that close supervision has to exist on the beginner in pure-bred breeding. Had we not gone in the Falher district, the 11 boars would have been kept and used extensively. The results would have been disastrous and the reaction worse yet.

Besides the 28 boars given by the Federal Department of Agriculture, private sales of high quality pure-bred boars have amounted to 16. Five pure-bred breeders have been started during the year in order to have a local supply of good breeding stock without going outside.

It is encouraging to point out that the highest priced boars sold at the Edmonton Swine Sale and the sow selected for the Royal to represent the northern part of the Province were exhibited by a farmer from this district, who started in pure-bred hogs in 1935.

The percentage of select hogs marketed in this district was 2% ten years ago. This year it has been over 30% with over 70% in the two top grades, which is a tremendous step in the right direction.

Poultry.

Even if over 20,000 day-old chicks were sold in the St. Paul area in 1938 by a new local hatchery, it does not prove that this office is responsible for this extension work. It does not prove either that a much higher standard of poultry is kept on our farms.

Ninety-nine per cent. of poultry flocks are not properly housed nor properly fed. This is due to a lack of interest in chickens rather than the fault of this office. We made it a practise last spring to call on farmers who had bought chicks to advise them on housing and feeding. Our time has not been lost, as this fall we were called upon to cull quite a number of flocks, and distributed a goodly number of bulletins on poultry feeding.

We must give credit to the local hatchery for distributing ration formulas with each order of chickens. This should have a good effect on the poultry industry of the district.

It is to be regretted that the marketing end of this enterprise is not better protected. The sooner the selling of poultry and poultry products is as well looked after as the production end of it, the sooner this small but important side-line on our north-eastern Alberta farms will become a lucrative one.

BEES

Apiculture was practically unknown in the district before 1935, when we started to interest a few. The success of the first ones is

partly responsible for this small industry gradually growing in importance every year. Last year a beekeepers' association was formed, and over 50 packages of bees have been ordered through it. This coming spring it is expected that this number will be doubled.

Production was good in general, some reporting as high as 412 pounds for a colony. There is not a doubt in my mind that the district is very favourable to the honey production. We do not advocate apiculture on a commercial basis, but rather for home consumption.

FIELD CROP IMPROVEMENT

Soils.

The soil problems throughout this territory are not as numerous as they may be in some other parts of the Province. Soil drifting and soil erosion are practically unknown with few exceptions. What concerns us most are the grey wooded soils. A settlement south of Bonnyville in particular was much worried over the potential ability of their soil to produce sufficient for them to remain on their farms. When approached in 1935, experiments with alfalfa and sweet clover were started. The results up to date have been very encouraging.

Crop rotations are getting started here and there. Many advices have been given on the subject; we never miss the opportunity of discussing this most important item either privately or at meetings. This office has received quite a number of requests to go and plan a crop rotation right on the farm.

Fertilizers are getting more popular. Experiments carried out through the district have resulted in increase in yield and earlier maturity. Before the use of fertilizers becomes general, analysis of the different soils of the district should be made and advice on the formula of fertilizer to be used made available to the farmers interested.

Cereal Crops.

The cereal crop improvement cannot be as a whole credited to the junior club work, there being only one wheat club in St. Paul in 1937. A wholesale change in the variety of wheat took place in 1938.

From Garnet, which was the most common wheat grown on nearly all farms, farmers changed to Red Bobs 222. The latter variety does not seem to satisfy the grower for the simple reason that it bleaches. We must admit, however, that it outyields the Garnet in every part of this district. Before rejecting this variety, we have to give it a fair trial of at least four years. This is what is being done by five junior grain clubs scattered throughout this area.

Due to the fact that rust was present in over 50% of the wheat fields of our district last fall, wheat growers are keenly interested in rust-resistant varieties. Thatcher in 1938 has yielded extremely well, but is also dull in colour. Some Renown will be introduced in 1939. Victory and Banner are the most popular oats. Some Legacy and Abundance is also grown on a few farms. O.A.C. barley is the old standby.

Forage and Pasture Crops.

Ever since we have assumed the responsibility of advising the farmers, we have stressed the most important item of introducing

forage crops in our agriculture, not only as a soil builder, but also as a source of feed supply for our live stock.

Wild pastures are quickly broken up and the balance overgrazed. Too often do we depend on straw as the sole roughage for our work horses and milk cows. Our hogs and poultry could use to great advantage more alfalfa, etc.

This extensive campaign has resulted in one municipality taking advantage of the Forage Crop Policy, and 80 farmers received forage crop seed in 1938. The number of individual orders for this seed during that year were greater. Another municipality and one improvement district are applying for 1939 seed. The idea is spreading, and it will not be very many years before nearly all the farmers will have a certain acreage seeded down into grass every year. Never have we advocated forage crop seed production as a cash crop, except for local demand, but always preached conservation of our basic capital, the soil.

Assistance through this office has been given to several farmers who wanted to create prairies of tame hay and tame pastures. Fields seeded to grass under our direct advice and supervision are resulting in more and more inquiries, as they have been a valuable demonstration to the neighbourhood.

Mixtures of timothy, red top and alsike clover seeded in low lands and lake bottoms have amazed a few farmers by their high yield. Brome and alfalfa have proven satisfactory for permanent pastures on higher land.

Crested wheat grass introduced in the last two years is very promising, and will undoubtedly replace timothy when the price of seed becomes cheaper. Parkland brome grass seeded for the first year in 1938 has not deceived the experimenter. We hope to see more farmers grow it in place of the ordinary brome grass.

WEED AND INSECT PESTS

Our system of farming, which is erroneous in its principle as far as soil productivity and conservation, both chemically and physically, are concerned, is also responsible for weed propagation. In a district like ours too many farmers are seeding their grain crops without cleaning their seed. Financial conditions during the period of depression through which we are passing is largely responsible for this present state of affairs. In many cases, small operators are seeding all their land every year and devote the rest of the season to clearing and breaking.

Canada and sow thistle, which are prevalent on nearly all lake shores, which are so numerous in this part of the Province, create a real problem. Ducks are plentiful in the fall and constitute the major propagating agent. On the other hand, very careful farmers who are weed-conscious succeed in keeping those weeds under control.

Our municipality, being overloaded with debts, keeps the expenditure for weed control as low as possible. Consequently, this office co-operates as much as is humanly possible with the municipalities in advocating control measures. Then comes always the eternal remedies to our evils—crop rotation, the use of clean seed and good tillage methods at the right time.

Insects in 1938 have not been responsible for any crop damage. A few grasshoppers were seen in the district, but not numerous enough to affect our crops. Cutworms have not been reported.

CEREAL DISEASES

Root rot and rust have been two major diseases which affected our wheat crops last year. Yield and grades were considerably reduced.

SHORT COURSES AND FIELD DAYS

During 1938 three short courses in agriculture were held in this district under the Dominion and Provincial Youth Training programme.

The different committees appointed for the welfare of those schools found all the co-operation they could expect from this office. The response from the youth has been splendid, the attendance being as follows: St. Paul in the spring 207, in the fall 100; Bonnyville, 147.

Usual field days such as those given under the auspices of the Crop Testing Plan at the Illustration Station took place as in previous years. If we judge the interest taken by the attendance, we would say that interest is growing every year.

The six grain clubs of the district held a joint field day, all members coming to St. Paul. This saved time for the official of the Department.

BOYS' AND GIRLS' CLUB WORK

Having devoted so much time on the sow distribution policy in the fall of 1937, no swine club has been organized in 1938.

Regarding live stock clubs, all we had was the St. Lina Calf Feeding Club with a membership of 20. These boys and girls took a great interest in their work. Their show and sale, which took place on the 6th of June, gathered at least 300 people from the surrounding district.

Mr. Morris, live stock fieldman, who judged the calves himself, admitted his great surprise over the results of the members' work. Calves fed last year were of the Hereford breed; this year they are Angus. We had such difficulty in getting good calves that we could not possibly find enough for all the boys and girls who wanted to join.

St. Lina being 32 miles north of St. Paul, off the highway and railroad, made it impossible for me to visit the members as often as desired. Sixty visits were all we could possibly make. We also attended five of their meetings.

Wheat clubs 5, membership 91; oat club 1, membership 31; meetings held, 12; visits made, 244.

SCHOOL FAIRS

Through lack of finance, several school districts do not take any interest in school fairs. Only two took place again this year, same as last year. We were called upon to judge these, and we did not find as much interest as last year, which is due, I believe, to the time they were held, being the middle of the harvest. We are of the opinion that it will be easier to organize more school fairs when large school units will be properly organized. These are very educative and should be more numerous.

WESTLOCK DISTRICT (E. G. Wood)

The crop season of 1938 was possibly the driest this district has experienced. The rainfall from April 1st to August 15th was 5.55 inches as compared to a long time average of 10.48 inches for the same period. The small amount of precipitation, which was also accompanied by extremely hot weather, materially affected growing crops and yields were, in most cases, comparatively low and especially so on the lighter soil areas of the district.

Although the quantity of wild or slough hay harvested was very small, most farmers were able to secure sufficient feed to carry their live stock over the winter. The growing of clovers and grasses on cultivated land is becoming quite a common practice, and less dependence is placed upon wild hay to meet feed requirements.

The acreage devoted to the growing of coarse grains is also being increased, but fortunately few farmers are forced to dispose of these grains through the regular grain channels. Hog raising is, and will no doubt continue to be, one of the main sources of revenue on most farms, and the bulk of the oats and barley produced is marketed in the form of pork. The returns from hog raising has been very encouraging over the past year.

It can safely be said that the general tendency in the system of farming is towards a more diversified form of agriculture. Factors such as the prevailing low price for wheat, lowered yields on the older agricultural lands, and the prevalence of weeds, are forcing farmers to look to other sources of revenue.

More attention is being given to the growing of forage crops as a means of building up soil, providing good quality feed for stock and at the same time deriving a certain amount of income from the sale of forage seed. Commercial fertilizers are also coming into more general use, although they are still very much in the experimental stage.

This district is particularly adapted for mixed farming, and it is only natural to expect that a more sane and permanent system of agriculture will be brought about, which will work out to the advantage of the farmer as well as to the community as a whole.

CEREAL CROPS

In so far as the variety of wheat is concerned, there is a very marked tendency on the part of the farmers to change from Garnet to some other variety. The Garnet variety has, from the standpoint of the grower, given good results and would appear to be particularly adapted to this district, and farmers are somewhat reluctant in making the change. As the Garnet variety is not finding favour in the trade with a possibility of still further lowering of grade and prices, other recognized varieties have been introduced.

The past spring found a great demand for seed of the Red Bobs variety, and in order to meet this demand and secure seed of high quality a carload of Certified Red Bobs was brought in and distributed to farmers in the Westlock and Barrhead districts. Other varieties such as Marquis, Reward and Thatcher are grown in limited quantities with varied results.

A certain amount of work has been carried on in testing out the Olli variety of barley for malting purposes, but owing to the

dry season the results were somewhat discouraging. Early frost in certain parts of the district did considerable damage to cereal crops, but favourable weather during the fall months allowed for early harvesting and threshing, and comparative high grades were obtained.

FORAGE CROPS

There has been a very marked increase in the acreage seeded to forage crops during the past few years. The interest in these crops has been largely due to the Forage Seed Distribution Policy which permits farmers to secure seed at a reduced cost, and has been an inducement to seed small acreages to clovers and grasses. Sweet clover is being grown largely from the standpoint of soil improvement, and the results so far obtained is evidence of the fact that this crop when plowed under provides the cheapest fertilizer possible. The production of sweet clover seed is also developed to a point where it is now rather difficult to market. Several carloads of high quality seed were produced during the past season; only a comparatively small amount has at the present time found its way into the market. It is expected that a fair local demand will develop, as many farmers are now considering seeding down fairly large acreages this coming spring.

Alfalfa is also becoming quite a popular forage crop in certain parts of this district. Between 40,000 and 50,000 pounds of alfalfa seed were produced during the past season, for which a ready market has been found, but at somewhat lower prices than obtained previously. As alfalfa seed is now more plentiful and prices within range of the average farmer, the acreage which will be seeded to this crop this coming season will be far above that of any previous year. Apart from the seed made available through the Forage Seed Distribution Policy, a large quantity was also handled through this office. The seed was purchased from growers in the district and then made available to purchasers in any quantity at the purchase price. This office also made nitro-culture available, and over 150 bottles were distributed. Through the efforts of this office it was also possible to have a seed cleaning plant established at Westlock. Although this plant is privately owned and operated, it will mean much to the growers in that they can now get their seed properly cleaned and put into a condition for marketing.

HORSES

This office has devoted considerable time to the promotion of co-operative purchase of stallions. A very large percentage of the area served by this office is now supplied by club stallions, and a keener interest is being taken by farmers in the production of a better class of horses. In practically all cases stallion clubs are operating satisfactorily, and there is every evidence that the coming season will see a greater number of clubs being organized. There are still too many grade stallions being used throughout this district,, but stallion clubs are gradually eliminating the grade sire.

The epidemic of encephalomyelitis, or sleeping sickness, in horses caused considerable concern in this district, and a number of losses were reported. It was also necessary to cancel a number of colt shows owing to the danger of this disease spreading through the district.

CATTLE

Little improvement in the quality of cattle in this district has been brought about. Here again the scrub sire predominates, and apparently there is little interest being taken by the average farmer to improve his herd. Greater interest is taken in dairying, which is evident by the fact that the local creamery reports their production of butter in 1938 was 35% in excess of the previous year. Although the Bull Exchange Policy was responsible for replacing a few grade bulls, it was not patronized to the extent it should have been. There are a number of bulls located in this district under the Federal Loan Policy but, as the majority of heifer calves sired by these bulls are marketed for veal, the result so far as herd improvement is concerned is not very noticeable.

SWINE

This district has been recognized as one of the major hog-raising areas in this Province. The number of sows being bred this Fall for spring litters is far above that of the previous year, and everything points to a marked increase in the hog population for 1939. The increase in the number of brood sows is due to the prevailing low price of coarse grains and the comparative high price paid for hogs on the market. More interest is being taken by farmers in the feeding of mineral and protein supplements as a means of lowering the cost of production. The chief causes of hog losses, especially among young pigs, is anaemia. Considerable information has been given through this office advising the use of iron as a means of combating this trouble, and many lots of pigs have been saved in this way. The quality of pigs shipped to market from this district compares favourably with that shipped from other parts of the Province. Many pure-bred boars as well as sows have been introduced, and there is a gradual improvement in the quality of pigs marketed.

BEEKEEPING

A very marked interest is being taken in beekeeping in this district. Westlock Beekeepers' Association has been a big influence in helping to promote the industry through the holding of meetings and in the handling of package bees. Close to 200 packages were purchased through the association last spring. The past year was an exceptionally good one from the standpoint of production, and the quality was well up to the average. An exhibit of extracted honey from Westlock was sent to the British Empire Exhibition at Bristol, England, and was placed third, which demonstrates the fact that certain sections of Northern Alberta can produce honey of exceptionally high quality. Most producers in this district are in a position to market their surplus honey without the aid of a marketing agency, but there is every indication that the time will soon arrive when the local organization will have to enter the marketing field and render assistance to the producers in this matter.

JUNIOR WORK

During the past spring a Youth Training School was conducted at Westlock for a period of three weeks. The number of students who attended was very encouraging, and many expressed their desire to attend such a school at a later date. Considerable time was devoted to the organization work in connection with this school and contacting prospective students.

Junior club work has received considerable attention. Two grain clubs were organized with a total membership of 38. Meetings, field days and seed fairs were held with these clubs, and the results obtained were very gratifying. Three swine clubs were fostered during the past year and two swine club fairs were held. There was a very marked improvement in the quality of hogs marketed from districts where these clubs have been operating during the past two years. Pure-bred boars were made available and pure-bred gilts were distributed to club members. Time was also given in assisting with the Farm Boys' Camp at the Edmonton and Vegreville Exhibitions.

MISCELLANEOUS

An ever-increasing demand is being made upon this office for various services of a local nature. As secretary of the Westlock Agricultural Society, considerable time is devoted to this organization in staging their annual agricultural fair and other activities. This fair has been built up to a fairly high standard in the past three years. The office of secretary-treasurer of the Westlock Percheron Horse Breeders' Association has also taken considerable time in the way of organization and conducting the business connected with this association. The Beekeepers' Association has also placed the office of secretary-treasurer upon the District Agriculturist, and time was devoted to ordering and distribution of package bees as well as arranging for various meetings throughout the year.

The Feeders' Day at the University of Alberta was attended by over 40 farmers from this district, and this trip was organized through this office. Field days were also attended outside of this district, and the District Agriculturist took part in the programmes at these gatherings.

GRANDE PRAIRIE DISTRICT

(G. S. BLACK)

Early fall rains following an abnormally dry season in 1937 caused an abundant second growth which left the ground in a very dry condition by the time the snow fell. Crops were sown rapidly, but lack of rainfall soon became apparent. The driest summer on record occurred in many areas, with the result that a very thin stand of grain matured too rapidly, resulting in very disappointing yields with few exceptions. These exceptions were isolated districts which received odd showers at opportune times, resulting in larger returns per acre.

Coupled with lack of rainfall, 1938 was a spring and summer of unusual high winds which caused much soil drifting over large areas. This has become distinctly a major problem as the brush and wooded soils are cleared. Insect pests, including wireworms, cutworms, with an appearance in the middle summer of quite a sprinkling of grasshoppers, had its effect in yield reduction. Very few sections, however, had damage by either frost or hail.

The feed situation loomed serious quite early in the Fall, as practically no hay was available, and such hay as was put up was of very inferior quality from low-lying land which had not been cut for years. The trend of settlers was not as marked as in the

year previous. A decided increase in grass and clover crop acreage was noted. Much of this crop was lost due to the dry condition before the plants became established.

The problem of replacing Garnet was attacked at meetings through the office and on the radio. Curtailment of live stock was noted distinctly and directly connected with lack of feed. A prolonged Fall with light rainfall helped in the garden situation, but on the whole it was a dismal failure compared with two years previous.

HORSES

A distinct increase is noted in the number of foals in this area. The quality and number of stallions is distinctly on the up-grade. Eleven stallions were in use through the co-operative plan, and colt shows were organized which subsequently had to be cancelled on account of disease outbreaks in various sections of the Province. The introduction of more stallions was a financial impossibility due to crop conditions, even after organization had taken place. Quite a number of shipments to the east were made of good type horses from 1,400 to 1,600 lbs. Disease outbreaks were just starting to occur at the time of my transfer. Every possible step was taken to familiarize the district re symptoms of the disease and treatment of same.

CATTLE

Much rough and unbroken land leads to fairly large cattle development. However, the quality is distinctly inferior. Inferior type sires are far too common, and the art of fattening cattle is not practised to any extent. Feed shortage in dried-up pasture land lead to a distinct increase in outward shipments. Through the efforts of Mr. Scarth and myself about 62 bulls were exchanged under the Bull Exchange Policy. A distinctly larger number would have been placed if feed conditions had been normal. Very little attention was paid to a warble fly campaign, and this could be very successfully done, as this area is more or less isolated. I feel that continued publicity and encouragement is necessary to successfully put this across. With the encouragement of the Department, a Tuberculosis free area could have marked returns and be much more easily controlled than in many areas in other parts of Alberta.

SWINE

The development of the swine industry in this part of Alberta has much to commend it, in turning from a hit-and-miss basis to that of a permanent form, leaves much to be desired. Normally this area has a large surplus of grain which could be utilized for hog feed. Unfortunately, this industry has not advanced to a marked degree. The quality of hogs compares favourably with many outside areas, but equipment and a lack of permanent attitude is very noticeable. Breeding stock of extra good quality is limited, and the new Departmental swine policy should be of real value, as new breeding stock will be required in the near future. Undoubtedly as crop conditions became normal again, more interest will be shown in this business. Plans of swine buildings and pamphlets on balanced feeding will be in demand. Feed shortages, both in the year previous and this year, had a very adverse effect.

SHEEP

Sheep production is distinctly low. The quality is good, but only a very few are interested in growing sheep. High freight rates,

combined with a lack of interest in this phase of live stock, is mainly responsible. Through the Dominion Government, rams of very excellent quality were sent to those desiring them. Very few pure-bred flocks exist, and the local market is very limited. Dogs have again caused numerous losses to flocks, and the owners of flocks feel that they have little recourse unless fortunate enough to catch the offending animal, in which case no one admits ownership, but usually one dog less eats the next day.

FORAGE CROPS

Interest in these crops has decidedly increased. Nearly six times as much clover and grass seed was distributed as in the year previous. The use of clovers in addition to soil builders, fodder supplies, etc., is now noted as soil retarders on windy days. Much effort is being expended in securing starts in sweet clover for the reason that the grey wooded soils are ideal fields for the growing of alsike clover, and attention is developing in this direction. Prices secured for all forage seeds was good, and a substantial increase was noted. Much time was given in this work, good seed secured, and instructional matter distributed. The next step necessary, in the opinion of the writer, will be for the development of proper cleaning equipment. Splendid co-operation has existed with Mr. W. D. Albright, who has given, along with his staff, unstintingly of his time in encouraging such development. The Experimental Station was often used in this type of work. Brome grass seed of both the old and the newer varieties is quite an important seed. The new Parkland brome is being sown in a number of cases with favourable comparison.

FIELD CROPS

Seed production of oats was in all about one-half of that of the previous year. The high quality was maintained, however, but this becomes increasingly difficult as weeds encroach. Although the price of seed was again high, yields made a distinct difference in the total shipped to the outside. The Department only purchased a relatively few cars as compared with the previous year. Inspections by the Dominion Seed Branch were greater, but total acreage lower. The office was again used as headquarters for inspection service. Much time was devoted to supplying other wheats to replace Garnet, which is rapidly losing ground in this area. A number of samples were being harvested at the time of my transfer which later won high honours in both Toronto and Chicago.

Weeds coupled with soil erosion are becoming two major problems. Much assistance is given in encouraging the fight against weeds in lectures, radio talks and practical demonstrations. Many weeds of the older districts have acquired a real hold, due to lack of knowledge of them, and in some cases careless farm practises. Water erosion is a distinct factor in the movement of wild oats and stink weed. Quack grass eradication attempts this year were unusually successful due to the dry condition of the soil.

FIELD DAYS

A series of field days were held in relatively new areas with excellent attendance in all cases. Dr. Wyatt of the University and Mr. Wilson of the Vermilion School were guest speakers, along with members of the Experimental Station at Beaverlodge. Junior club field days were also held and well attended. Much good, I feel, can

come through this medium, especially when held on good farms in the areas of the club members.

Beekeepers' Field Day was again held, with an increased attendance over the past year.

New grain clubs were organized in my territory, including an oats club at Wanham and a wheat club at Beaverlodge. One of the older clubs at Spirit River was discontinued. Live stock clubs were not encouraging, and I distinctly felt the lack of parental interest in this connection.

Interest in grain clubs was excellent, due possibly to the results in both Toronto and Chicago. This interest is reflected in grain work through the whole area, and much good is in evidence. The co-operation of the adults on grain club work is distinctly noticeable as compared to any class of live stock, as the whole Peace River Country is being helped by the publicity received through its junior winners, and favourable comment is noted in grain club work.

MISCELLANEOUS

Assistance was given in connection with the Youth Training School on both the north and south sides of the river. The radio station was used to good advantage at very low cost. Land inspection and relief settlement assistance was confined to the south side of the river, and was much less than the year previous. Innoculation for clovers and threshers' licenses were again handled through the office. Assistance was given when called upon by various organizations throughout the area, such as horticultural societies, service clubs, etc.

I again assisted with the boys' camp, this year being in charge of the Calgary camp. A large attendance of very excellent young men attended. Shortly after this I was transferred to headquarters, with office at Edmonton, in charge of swine work. It was with regret that I left this community, feeling that the office at Grande Prairie was being used by this community to a very large extent and that a great field for improvement and good work exists there.

Mr. Scarth, my successor, will, I feel, do a real job and to the best of his ability at all times, and I wish him every success.

(W. S. SCARTH)

The Grande Prairie office was taken over from Mr. G. S. Black at the beginning of September.

The drought conditions prevailing throughout the summer brought an early harvest in practically every section of the district. Spirit River and Rycroft areas harvested a very light crop, and the area east of Grande Prairie also suffered severely from the dry summer. Much of the crop in this district was cut with home-made attachments fastened to the binder to facilitate bunching, then raked up and stacked for feed. While the crops further west were disappointing, they were not so short as those north and east. Some wheat yields were up to 20 and 25 bushels, but the average was around 7 to 9 bushels. Coarse grains were generally light, although some fields around Beaverlodge and Hythe turned out fairly well, due to scattered local showers which improved late crops. There is a general shortage of fodder throughout the district.

LIVE STOCK

Considerable interest was shown in the new Bull Exchange Policy throughout this district. Applications were received from widely scattered areas, from DeBolt on the east, Belloy and Spirit River on the north, to Hythe on the west. Twenty-six applications in all were sent in for young bulls, and many enquiries have been received since the closing date about renewal of the policy. It would appear that this plan will fill a definite need for farmers with small herds who are unable to purchase a mature bull of good quality, and have been using scrub sires. This is especially true in the newer districts.

In October this office was glad of the opportunity to assist the Dominion Live Stock Branch in locating a shipment of young pure-bred boars and choice gilts for supplying applications at Falher for the brood sow policy. Local swine breeders were encouraged by this purchase of their stock, feeling that their past efforts in building up good herds were being repaid to some extent. Prior to the close of the year, assistance was given farmers looking for boars, and several from local breeders were placed in other districts. Any farmers with feed to spare have been looking for breeding stock. Outgoing shipments of live stock were very heavy during the fall, as many were forced to sacrifice stock on account of feed shortage.

CEREAL AND FORAGE CROPS

While the average crop was light in all sections, considerable quantities of registered and certified seed were produced in this district. While there is no doubt that large amounts of this seed will be absorbed here, there may be some difficulty in disposing of all the supply at good prices this year. Every effort is being made to encourage the purchase of good seed locally. There were also considerable quantities of sweet clover and crested wheat grass produced, and the slump in prices this fall is naturally disappointing to the growers. Plans are under way to use as much of this local seed as possible under the Forage Crop Policy. Districts having large areas of grey wooded soil are being encouraged to take advantage of this policy, in the hope that they will be able to improve soil conditions. It is expected that groups of farmers in the Valhalla, Whitburn and Wanham districts will take out forage seed under the forage plan. A number of farmers in these grey soil areas are becoming interested in growing alfalfa seed. A group south of Wembley produced a considerable quantity of seed this year.

The district again made a splendid showing at both the Toronto and Chicago Grain Shows. This year the Wembley community again came to the front, and had the distinction of having two brothers, Justyn and Lloyd Rigby, win the world championship for wheat and oats at the Chicago international. It is a source of satisfaction to know that these boys were both members of a junior grain club and that their efforts have been an inspiration to many other club members. Other exhibitors from the Beaverlodge-Wembley area won a number of high awards at both Toronto and Chicago.

JUNIOR CLUBS

Three very successful junior grain club seed fairs were held at Beaverlodge, Grande Prairie and Wanham during December. An instructive programme of grain judging and a lecture on milling

values and suitable varieties was given at each fair by Mr. R. Milligan, of the Field Crops Branch. Arrangements have been made for a series of winter meetings of all grain clubs in the district. Requests have been received for an enlargement of grain club work in two areas. A team of boys representing the Grande Prairie Club competed at the Edmonton Grain Judging Competition in October. Junior club members carried off a number of the major prizes in junior classes in Toronto.

MISCELLANEOUS

Three successful school fairs were held at Grande Prairie, Sexsmith and Valhalla in September. General interest was keen and entries very satisfactory, despite the unfavourable season. It is hoped to enlarge the school fair organization here to include the whole area at present administered by School Division No. 14. This will necessitate the organization of two new centres in the western part of this division. Assistance was given in judging at school fairs at Bluehawk and Donnelly.

BERWYN-NORTH PEACE RIVER DISTRICT (W. S. SCARTH)

GENERAL CONDITIONS

Exceptionally dry conditions prevailed throughout practically the whole North Peace River district after the crop was sown. Conditions during the early spring were excellent for tillage and seeding operations, and the crop went in with a minimum of delay with sufficient moisture for germination. However, there was practically no precipitation in May and no general rain until June 26th. This was too late for many early sown crops, which had a minimum of reserve to draw from the dry summer of 1937. Later sown wheat crops made remarkable recovery, but most of the coarse grains had advanced too far in the shot blade, with resultant low yields in all oats and barley.

Soil drifting in the larger open areas reached alarming proportions during three days of high wind in the middle of May. Crop damage due to drifting was not serious over any extended area, but served to indicate the possible menace of wind erosion in this territory. Many Peace River farmers had felt safe from this danger, but realize this year that our bush and parkland soils will drift very seriously when conditions are dry, combined with seed beds worked to a fine mulch.

Insect damage from both wireworms and cutworms was extensive in many districts, aggravated, of course, by prolonged drought conditions. A sudden outbreak of beet webworms in early July destroyed a number of gardens. The district suffered its first major loss from hail, when a disastrous storm swept through the Berwyn-Grimshaw district on July 22, destroying some of the most promising crops. The area affected was about 18 miles in length and varied from 2 to 5 miles in width. Most of the crop in this section could be considered 100% loss. Fortunately a remarkable second growth in September provided most of this area with some feed, but it was necessary for most of the residents to dispose of all but a minimum of live stock to carry through the winter. Due to continued drought, the water supply for stock became a serious

problem in some parts of the Whitelaw-Fairview area. This territory depends almost solely on dugouts and reservoirs for supply, and many of these were practically exhausted this fall. Any progressive policy of live stock improvement is rendered exceedingly difficult under such conditions.

CEREAL AND FORAGE CROP IMPROVEMENT

It is most encouraging to report the placement of two new portable grain cleaners in this district, under the Dominion-Provincial Grain Cleaner Policy. The Gage Seed Cleaning Association procured one of these machines for the Gage district, where a large number of farmers have shown considerable interest in improving their seed stocks. The other cleaner was placed in the Berwyn-Grimshaw area, under the organization known as the North Peace River Seed Growers' Association. Both these machines arrived in April, so only a small amount of seed could be cleaned this spring, but general satisfaction was expressed at the operation of both units. This office gave all assistance possible to these new and important organizations, and it is hoped that they will do much to improve the general quality of seed used in the districts concerned. With further improvement, these communities should be in a position to market a considerable amount of good seed to outside areas. Encouragement has been given to farmers considered suitable for growing registered crops.

Very decided interest is being shown in forage crops, if enquiries at this office are any indication. Many farmers are realizing that when conditions of drought and soil drifting appear in the north, they must pay more attention to improving soil texture and fertility, incidentally supplying a reserve of feed for a short season. In the past, too many stockmen have been depending solely on the supply of wild hay for winter feed, and this type of forage was practically out of the picture in 1938. Personal calls and assistance were made to many farmers who were interested in getting a start in either grasses or clovers. Many rather disappointing stands were evident this year on account of the prolonged drought. Even under such conditions, sweet clover showed the best promise of coming through with good yields of forage. It is encouraging to note the increased area of both sweet clover and alfalfa in the grey wooded soil areas.

As in former summers, as much time as possible was spent in several of the newer homestead areas, advising settlers about the use of legumes on wooded soils. It is hoped to have these farmers producing sufficient forage seed for their own needs, at least, as few are in a position to buy seed each year.

LIVE STOCK

In most cases live stock improvement has been slow throughout this district, there being few pure-bred breeders resident who will bring in new or improved strains to build up local stock. This situation has been aggravated by several years of low cattle prices, and in the last two years by general feed shortage. The almost complete absence of good sires in the newer settlements has seriously handicapped any steps for improvement. During May, June and July a great deal of time was spent in promoting the Department's new Bull Exchange Policy, and numerous calls were made on farmers who had scrub or grade sires. The regulations of the policy were advertised through the medium of the press and radio, and by posters and circular letters to live stock buyers and

others interested in the cattle trade. A special trip was made to the High Prairie district, where there were a number of enquiries about the new policy. Despite a definitely unfavourable season and a serious feed shortage, 28 applications were made in the High Prairie-Fahler-Peace River-Fairview territory. Since the closing date for receiving applications in October, numerous enquiries about the policy have been received, and the outlook for continuance of this good work is encouraging for 1939.

Serious feed shortage has forced many to reduce hog holdings to a minimum again this fall. Heavy shipments were made throughout the fall and early winter season. Indications point to a demand for breeding stock next year should grain prices remain low.

More interest has been apparent in this district in horse raising. Two meetings were addressed dealing with the Co-operative Stallion Purchase Plan. Unfortunately, the hailstorm losses in July prevented the completion of plans in this community. Two stallions were brought in by private purchasers, and will assist in improving the stock in their respective communities.

FIELD DAYS

A well attended Field Day was held in June at Mr. M. R. Upton's farm, north of Berwyn. Soils, forage crops and provincial live stock policies were the main topics of discussion. Dr. F. A. Wyatt, of the University Soils Department, and Mr. A. M. Wilson, of the Vermilion School of Agriculture, were the visiting speakers. This was the first Provincial Department Field Day to be held in this particular district, and the interest shown by many farmers coming from 30 to 50 miles to attend indicates the value of this type of demonstration.

Two very successful Beekeepers' Field Days were held at Mr. T. Ritchie's apiary near Berwyn and at Mr. R. H. Macdonald's farm at Fairview. Despite unfavourable weather for demonstration work, there was a good attendance at both these events. Mr. S. Hillerud, Provincial Apiarist, expressed appreciation of the progress that beekeeping is making in this district.

This office welcomed the opportunity to co-operate with Mr. W. D. Albright and his staff from the Beaverlodge Experimental Station in an illustration Farm Field Day at Fairview in August. We are pleased to report the continued co-operation between the Dominion and Provincial services in this territory.

Assistance was given in judging live stock classes at the Fahler-Donnelly Agricultural Fair held in August.

JUNIOR CLUBS

This proved a disappointing year for the Berwyn Junior Swine Club. Only a few of the members had sufficient feed to carry their hogs through the summer, and it was not possible to hold a fall fair. Summer meetings were held, however, with stock judging and feeding practices being the main topics of discussion.

A new 222 wheat club was formed in the Berwyn-Brownvale district with a good membership. The Legacy Oat Club continued at High Prairie. The Berwyn Club held a successful Field Day at the Dominion Illustration Station at Mr. A. McKenzie's farm at Fairview, while the High Prairie members made a trip to the Beaverlodge Sub-station, and spent a most profitable time with Mr. Albright and his staff.

MISCELLANEOUS

As much assistance as possible was given authorities in charge of weed control. It would seem advisable that more weed inspection be carried out in the newly settled areas, if it is possible to finance such work. Very little weed inspection has been done in the Battle River country for several seasons, and this area is now producing a considerable crop of grain. Several complaints to this office were investigated directly, and there are numerous abandoned homesteads which will become a serious menace unless steps are taken to control the weeds.

A few inspections of land and equipment for relief settlers were made.

Correspondence and office calls have steadily increased, indicating that this district is showing an interest in the agriculturist service.

SMOKY LAKE DISTRICT

(W. N. PIDRUCHNEY)

In spite of some unfavourable weather conditions the season of 1938 was a fairly successful one for the production of crops in this territory. Abundant winter snow and early spring rains provided satisfactory moisture supply and the seed, although somewhat late, went into a good seed bed. Seeding proceeded without interruption, and was completed about the end of May. The growing season was far from being perfect, but fortunately the short drought periods did not affect the yields very seriously. The territory west of Smoky Lake received more timely rains and harvested heavier yields than the eastern section, which would have been benefited immensely by at least one heavy rain at the right time.

Harvesting operations began earlier than usual, and were completed very early in the fall, permitting the farmers to do more fall work on their land than they have had a chance to do for many years past. Lack of rains during the fall, however, left the ground very dry, and unless rains come early in the spring, prospects for the 1939 season are not very promising at the present time.

JUNIOR CLUB WORK

Junior club activities during the past year were carried on in the following districts: Spedden, Vilna, Bellis, Wasel, Edward, Smoky Lake, Warspite, Waskatenau, Radway and Egremont. Nineteen club projects were actively engaged in by the above mentioned districts with a total membership of 418, divided into the following clubs: 6 swine clubs with 142 members, 8 wheat clubs with 190 members, 3 barley clubs with 45 members, and 2 calf clubs with 41 members.

Swine Clubs.

Three new junior swine clubs were organized during the year, namely, Smoky Lake, Bellis and Vilna. The above mentioned districts have not had much swine promotion work done in them previous to this, and it is therefore expected that the swine club activities during the next few years will make a marked improvement in the quality of the pigs raised there. Spedden, Egremont and Radway clubs were reorganized, and the former two carried

on a very active programme. Wasel and Wahstao clubs were permitted to lapse for the time being, as it was found impossible to find enough time to give them the necessary attention, and secondly, those clubs have been in existence for several years, and it was felt that they received their share of attention in former years. Five swine club fairs were held, which were patronized exceptionally well by the members as well as by the adults. Several judging competitions were held during the year, but we did not have enough time to coach a team properly enough to participate in the semi-finals in Edmonton.

Swine clubs still remain the most important factor in the improvement of hogs throughout this part of the country, and naturally receive a great deal of attention from this office. The loan of pure-bred boars to these clubs by the Federal Department is quite an incentive for the districts to have such clubs organized in them, and the loan of 23 new club boars in my territory during the 1938 season is greatly appreciated.

Grain Clubs.

The junior grain club movement has become a very strong and active organization among the young farm boys. Several years ago an average farm boy throughout this part of the country knew very little about the varieties of grain, judging of grain, preparing seed exhibits, etc. Today, through the influence of these clubs, some are taking the place among the best grain growers of the Dominion as indicated by the recent success at the Royal Winter Fair by club members from this part of the Province.

Eleven junior grain clubs were supervised from this office during the year. Their meetings, field days, local seed fairs and other activities were attended to regularly, and instructions given on various phases of grain growing. It was found difficult at times to attend to all of their activities for lack of time, and the members probably did not get all the attention that they should have, but there is no doubt that a great deal of good has come out of these clubs both to the members and the districts at large, in spite of some failing in this respect. Two large field days were arranged for the members, one at Vilna and the other at Waskatenau, at which very interesting programmes were arranged with the assistance of the staff from the Field Crops Branch. Over 100 members attended each field day.

Calf Clubs.

Calf clubs were organized at Vilna and Bellis last spring with a total membership of 41. Arrangements for the purchase of well-bred calves from outside points could not be brought about through lack of proper financial arrangements, and the clubs carried on with the best calves that could be selected out of the home herds. The members took a very keen interest in their calves during the summer, and when the fairs were held in the Fall it was proven that even the average farm calves could be grown out well if given proper management and suitable rations. A dairy calf club was organized at Smoky Lake with a membership of 22 early in the Fall, but since suitable calves could not be located until towards winter, it was decided to postpone the purchase of calves until next spring. The idea back of these calf clubs is to encourage better feeding of the young calves, and if it accomplished to the same extent as was accomplished by Bellis and Vilna clubs, I think

it is well worth the time and effort to carry on with a few every year.

LIVE STOCK IMPROVEMENT

Apart from the junior live stock clubs, which naturally take up a great deal of time during the year, several other activities in the improvement of live stock were carried on among the adults.

Horses.

There is a decided increase in the number of foals throughout the district, but a supply of good stallions is limited north of the Saskatchewan river. The districts in the past have depended on outsiders coming into the district and travelling a stallion, and when those were not available, ordinary grade stallions were used. This situation is gradually assuming a more hopeful aspect, as evidenced by the requests for information about various club policies and a general desire to improve the quality of horses. One district was organized and a pure-bred stallion was purchased under the Provincial group purchasing plan, and two other stallions were purchased for private individuals. Another group under the Provincial plan was organized in the late fall, and will be looking for a stallion early in the spring. Meetings about the organization of stallion clubs were held at Edwand, Pakan, Wahstao, Hylo, Craigend and Spedden, and several more districts are on the list for later attention. It is expected that several of the above mentioned districts will complete their organization for the following spring.

Many owners of grade stallions were approached during the year and the stallion situation discussed with them. Most of them realize that the present situation cannot continue much longer, and it is only a matter of time when a turn for the better will take place. Probably it will be another two or three years before as concrete results as those south of the river will be witnessed.

Cattle.

With better prices on cattle than several years ago, the farmers are feeling more optimistic about the cattle industry in general, but a further increase is necessary before a more general interest will be taken in an improvement programme. The bulk of the cattle is just ordinary grades, some hopelessly inbred, with no distinct line of breeding predominant. The promotion in this line of work must of necessity begin with the breeding stock from the bottom up. Any amount of information on proper feeding, management, etc., alone will not bring about much of a change, because neither the dairy type nor the beef type is present. The situation becomes somewhat more aggravated because the majority of the farmers are either heavily indebted or the revenue from the farm so meagre that an outlay of some cash for a well bred animal is almost out of the question. But the individuals who can best afford to purchase good breeding stock are being contacted continuously, and as a result of this type of approach 17 head of well bred Shorthorn females and 6 pure-bred bulls were located and purchased in the spring of the year. Later on in the year, when the Bull Exchange Policy was put into effect, more or less of a campaign was put on throughout the territory, with the result that about 42 exchanges were effected. This has become one of the most far reaching policies in the elimination of the inferior type bulls within the scope of every farmer that has ever been developed, and it is only a

matter of a short time until the quality of the cattle will show a wonderful improvement.

Many of the outlying and pioneering districts are being encouraged to take advantage of the Federal Sire Loaning Policy, and a hearty co-operation is extended from this office to the Federal officials in this promotion work. Several districts were visited last winter in this connection, which resulted in organizing three live stock improvement centres, of which two obtained their quota of three pure-bred Shorthorn bulls each.

The whole problem of cattle improvement is rather difficult and slow to bring about immediate results, but the increase of well bred sires and a few good breeding females every year, as well as encouragement to retain heifer calves out of good pure-bred bulls for future breeding purposes, is bound to show a marked improvement in the next few years.

Swine.

In districts where the activities of the junior swine clubs are general throughout the district there is very little necessity for any other type of promotion work in the hog industry. But there are solid districts where junior club work has not been in operation for various reasons that require special attention. From time to time certain individuals in these districts ask for assistance in locating breeding stock and other matters pertaining to swine raising. This type of service was rendered to the extent of locating 16 pure-bred boars and 27 gilts during the past year. The question of proper feeds and supplements is receiving more attention, and seldom a day goes by without a few enquiries about this or other related subjects. More suitable housing accommodation is also receiving considerable attention, and assistance was rendered in several occasions in laying out satisfactory quarters. One farmer built a 12-pen hog house according to plans and specifications of a Danish plan last spring which receives from distant and neighbouring farmers very favourable comments. Quite a number of farmers have discussed this plan with me, and are preparing to construct similar hog-houses in the near future. A large number of farmers during the year discussed with me the sicknesses which developed among their pigs, with anaemia, hairlessness and rickets predominating. Recommendations for suitable rations were given, and in most cases a repetition of the same ailment did not occur.

The territory north of the Saskatchewan river, owing to soil and climatic conditions, will always be a source of large quantities of coarse grains. In fact, this office is continually advocating the discontinuation of wheat growing to a minimum and replacing it with coarse grains. Having the above mentioned policy in mind, which I am convinced is sound for this territory, every opportunity is taken advantage of to encourage greater production of hogs per farm. Wonderful response and results have been obtained in some districts, but there are many others who require considerable attention in this respect in the future. The hog production must remain the mainstay of this part of the country, and too much time cannot be expended along this line of promotion work.

Sheep.

This district is not raising sheep on an extensive scale, although small flocks from 5 to 10 sheep are maintained on many farms. Only a few of the flocks are well bred and the balance are just

sheep. Eleven farmers were persuaded to provide themselves with pure-bred rams and three others purchased four pure-bred ewes each. The majority of these rams were purchased at the Fall sale in Edmonton. Docking and castration of lambs at the proper time is sadly neglected, and several demonstrations of these operations were held in the spring.

Poultry.

Promotion in poultry work is largely confined to dissemination of information on proper feeding, management and housing conditions. Many complaints are received about the heavy mortality of birds, the cause of which lies mostly in unsuitable housing conditions and unbalanced feed rations. Sanitation and cleanliness in poultry houses are being advocated vigorously to overcome this heavy loss of birds. Several flocks were culled in the Fall, and although there were a few more requests for this service, I could not do it for lack of time.

Greater interest than ever was exhibited last Spring in improving the quality of turkeys. Sixteen dozen of hatching eggs were shipped in through the office which, in a number of cases, will result in a nucleus of well bred turkey flocks in the district. Three grade A turkey toms were brought into the district last Fall, and they were so much superior to any local toms that they were responsible to a very large extent for a greater interest in improvement.

WEEDS

The weed situation in the territory north of the river is more serious than expected. Sow and Canada thistle infestation of small patches is general, and a few farms are infested from one end to the other. The local authorities apparently were not taking the matter in hand very seriously, so I took it upon myself to interview most of the local weed inspectors personally. A vigorous campaign against the weeds in general was started mostly through personal contact, and followed up with meetings in various communities. In so far as time permitted, fair response was obtained, and as far as this office is concerned this campaign will be continued until the majority of the farmers become weed conscious and begin to realize that a clean farm is their greatest asset.

FORAGE AND PASTURE CROPS

In 1937 the Municipal District of Smoky Lake was selected to participate in the Dominion-Provincial Forage Crop Policy, and in the early winter, the Municipal Districts of Unity and Vilna were contacted in this respect, and agreed to participate in this programme also. During the late Winter and early Spring the municipal councils were interviewed, and finally meetings were held throughout these municipal districts to discuss the most suitable practices to be followed in preparation of the land, seeding, etc. In the three municipalities 201 farmers participated during 1938, and a total of about 12,000 lbs. of seed was distributed amongst them. The favourable response to this policy by the farmers in this part of the country is most gratifying, and it is only a matter of time until the growing of forage crops will become firmly established in the crop rotations of the farms. Soil drifting in certain sections of the district is responsible to a very large extent for the keen interest shown.

MISCELLANEOUS

For the first time in several years the school fairs made a strong come-back again this year in my districts. Five centres, namely; Vilna, Bellis, Smoky Lake, Waskatenau and Thorhild, carried on this year, and although the bulk of the organization work is carried on by the School of Agriculture at Vermilion, this office cannot avoid certain responsibilities. Requests to attend the meetings of the executives are made every time a meeting is held, and seven such meetings were attended. Responsibility for live stock judging at the fairs was left with this office and, in addition to the judging in my own districts, I assisted in judging stock at Busby, Barrhead, Sangudo and Mayerthorpe school fairs.

It has always been the policy of this office to encourage as many farmers as possible to keep enough bees to supply the household with honey of their own production. About a hundred small beekeepers were started on the Willingdon line when the office was located there, and now the same promotion is being followed up in this territory. Twenty-four farmers were started with bees last spring, and the prospects for the coming year are that there will be just as many or more new ones starting up next spring. Bearing in mind that this phase of farm industry is absolutely new to every farmer, considerable time is devoted to it from this office in the spring and during the summer. Each beginner is advised about the equipment that he will require, the packages are installed for every beginner, and visits are made at regular intervals to the farm during the first year to acquaint the beginners with the care and management of the hives. If this close attention is not rendered the first year there is bound to be some failures and disappointments, and eventually leave the impression that beekeeping cannot be carried on successfully. Several meetings were held during the late winter months at which the bee film was shown, together with a discussion on beekeeping in general. On the 15th of July a Beekeepers' Field Day was held at Smoky Lake with Mr. O. S. Hillerud in attendance and about 50 beekeepers present from within a radius of 30 miles.

The town of Smoky Lake was the centre of two Farm Youth Training schools during the past year, each of two weeks' duration. The first one began on the 28th of February and the second one on the 28th of November. Assistance of all kinds was rendered from this office in connection with these schools, but especially with advertising the schools, with the enrolment of the students, and with several lectures. The enrolment to the first school was 141 and to the second 104. The dissemination of agricultural information in this manner is highly appreciated by the young farm people, and it is hoped that such schools would continue to carry on throughout the Province and, if possible, be made of at least four weeks' duration.

The farm boys' camp in connection with the Vegreville Exhibition was given assistance during the three days of the fair, at which I handled the classes in swine, horses and beef cattle. The camp was quite a success with about 60 boys in attendance, and met with very high approval from all interested parties.

Seed drill survey was made in the Smoky Lake district for the purpose of ascertaining the types of seed being sown in this part of the country. Forty-two samples of wheat were collected and forwarded to Calgary and Vermilion for the tests. The results of

these tests offered some startling information, and this information is very valuable now when the weed problem of the district is being discussed. It was discovered that only a very small percentage of farmers sowed No. 1 seed, and secondly, that about 40% of the farmers sowed seed which was of a rejected seed grade.

There was no agricultural short courses held during the year, but these were supplemented to some extent by the Farm Youth Training schools, junior club meetings and field days, and with 32 general meetings at which various phases of agricultural development were discussed. It is pleasing to note that the attendance at these meetings is very good and the interest in the subjects under discussion very keen.

The crop testing field days conducted by the elevator companies at Bellis, Smoky Lake and Radway were attended, and assistance with the programme was rendered at each one of them.

In addition to the organized work conducted from the office, there were many requests for individual assistance in solving the problems of the local farmers. Requests for this type of assistance are increasing rapidly. Correspondence is increasing every year and, together with the circulars which are being sent out to junior club members from time to time, take up more time for clerical work than is good for field services. A large supply of Provincial and Dominion agricultural publications held on hand at all times, and several hundred of these were distributed during the year, both through personal visits to the office and through the mail.

REPORT OF THE SCHOOLS OF AGRICULTURE

OLDS SCHOOL OF AGRICULTURE

(JAMES MURRAY, *Principal*)

The School Session for 1937-38 was brought to a close on the evening of April 5th. With few exceptions, the students who had completed the work of the year took a sufficiently high standing to warrant their being granted diplomas or certificates. There were 41 diplomas presented to students in agriculture and 6 certificates. Diplomas in Home Economics were presented to 21 students and a certificate to one. In both cases the certificates can be exchanged for diplomas on the completion of certain high school units.

At the closing exercises we were fortunate in having with us the Rev. H. A. McLeod, of Robertson Church, Edmonton, who delivered an inspiring address to the graduating class.

The principal prizes and scholarships awarded during the year were as follows:

Gold Medals—General proficiency in complete course:

Agriculture—Second Year: Ottomar Lange, Claresholm; Two-in-One: Robert Christie, Okanagan Falls, B.C.

Home Economics—Second Year: Gladys Skalin, Kingman; Two-in-One: Lydia Stauffer, Crossfield.

Wheat Board Scholarships of \$100.00 each to graduates in Agriculture who enter the B.Sc. Course in Agriculture at the University of Alberta: Emil Andersen, Wayne; A. M. Burka, Calgary; Henry Irwin, Carbon; Douglas Smith, Lethbridge; Oliver Smith, Duffield.

Wheat Board Scholarships of \$75.00 each to First Year students standing highest in General Proficiency:

Agriculture—Ben Weisgerber, Schuler.

Home Economics—Ethel Ferguson, Conjuring Creek.

Mr. A. L. Searle Scholarships of \$50.00 each for progress in the year's work: Agriculture—Mike Hasie, Olds.

Home Economics—Joanna Allen, Craigmyle.

Girls' Alumnae Scholarship of \$50.00 to the first year student in Home Economics who made the best use of her educational opportunity, at the same time making contributions to the literary, social and athletic life of the school: Awarded to Jenny Whiteford, Olds.

O.S.A. Experimental Union Scholarship of \$50.00 to the first year student in Agriculture who made the best use of his educational opportunities, at the same time making contributions to the literary, social and athletic life of the school: Awarded to Norman Nelson, Craigmyle.

We were unfortunate in having more than the usual amount of sickness during the term. All of those who were ill made satisfactory progress, but several lost so much time that it was necessary for them to leave the school without completing the term's work. Most of them have returned since to take up the work where it was interrupted. Measles was introduced by a student in October. We were not completely free of the disease until about the middle of February.

The facilities that we have for hospitalization are most inadequate, and we hope that these will be improved in the near future.

Too frequently the students have all to be placed in quarantine because those who are ill cannot be satisfactorily quarantined from the student body. This seriously interferes with the work of the school.

The fall term opened on October 18th with a heavy enrolment, divided as follows:

	Agriculture.	Home Economics.	Total.
First Year	57	34	91
Second Year	49	22	71
Two-in-One	29	25	54
Total enrolment			216

There is not sufficient accommodation in the school dormitories for all students. There are about 50 who have to find rooms in the town, some of the rooms being quite unsatisfactory.

The enrolment of students in Home Economics is the heaviest in the history of the school. We found it necessary to use space in the dormitory for the students, which was formerly used by members of the teaching staff and help, and utilize a large sitting room for the accommodation of six students. We had also to refuse applications from several students who applied for the course.

YOUTH TRAINING STUDENTS

For the 1937-38 term we had 15 students sent to us under the Dominion-Provincial Youth Training plan for the course in Agriculture. They came in a month late, but in spite of this handicap most of them did excellent work. One of them won the scholarship for General Proficiency in competition with all first year students. Four of these students are now taking their second year course under the same plan, and are making good progress.

This year we have 16 students under the Youth Training plan. Eight are students in Home Economics, the others in Agriculture. All are making good progress.

SUMMER WORK OF STAFF

The school fairs in the territory served by this school are all under our supervision, and the services of several staff members are required for this during most of the time when the school is not in operation, Mr. Holeton and Mr. Benn are so employed during April, May and most of June. Some time is also required from the instructresses in Home Economics in visiting schools taking part in this work. In September, when most of the school fairs are held, the services of practically all staff members are required for judging.

Mr. Hugh McPhail is employed as District Agriculturist for this district from April until November. He has in his charge the Junior Live Stock Clubs and Junior Grain Clubs in this part of the Province. These clubs also require some supervision from him during the winter months, and his time-table of teaching is arranged to allow at least one day a week for this work.

Mr. C. E. Yauch has had personal supervision of the work on grey wooded soils during the past two summers. This work is referred to elsewhere in this report. He also supervises the apiary.

Mr. M. W. Malyon and Mr. F. F. Parkinson have for several years been engaged during the summer in work under the Field Crops Branch. This has been in seed and feed distribution and in the control of grasshoppers, etc. September has been devoted to school fair judging.

The teachers in Home Economics, Misses Switzer, McIntyre and McCaig, are required at the school during the summer short courses, and at other times are employed as demonstrators by the Women's Bureau Branch of the Department. Miss Gordon, Dietitian and Dean of Women, is also engaged in women's extension work when she is not required at the school.

Mr. A. T. Kemp has charge of the grounds and gardens during the summer. He has an active part in all short courses and field days at the school. His services are in demand for addresses on Horticulture at field days throughout this part of the Province.

SUMMER SHORT COURSES AND FIELD DAYS

The school was open for summer courses from the 28th of June until the second week of August. The School of Community Life carried on in co-operation with the Extension Department of the University had a much better attendance than a year ago. Over 100 were registered, and the average attendance throughout the two weeks was about 50.

The Women's Institute Girls Clubs held their annual convention here with an attendance of about 100. These were young women from all parts of the Province, the type that we welcome as students in our Home Economics course. Several staff members contributed to the week's programme.

The course for farm women continues to grow in popularity. We had over 100 registered, which is about as many as can be handled with our present facilities.

The short course for scholarship winners from the school fairs had 104 in attendance. This is a representation of one boy and one girl from each school fair supervised from this school.

Three field days were held—one on July 30th under the auspices of the Mountain View Live Stock Shippers' Association, one for dairy cattle men on August 2nd, and one on July 28th for the Crossfield Board of Trade. The programmes were mainly provided by members of the staff. Staff members also assisted during July and August at field days at the following points: Airdrie, Sundre, Bearberry, Gadsby, Rumsey, Kevisville, Crossfield, Innisfail, Beiseker, and Morrin.

SCHOOL FAIRS

School fairs were arranged for at 61 points from this school. Of this number two centres, Oyen and Duchess, failed to hold fairs.

The 59 fairs included 666 rooms and a total of 14,849 pupils. A total of 54,416 exhibits were shown, an average of 922 per fair. The estimated average attendance at these fairs was 323.

The territory was divided into three fair circuits, and the judging was done by a man and a lady member of the school staff for each circuit, with assistance from district agriculturists and the inspectors of schools.

The interest in fair work was generally good. In the territory now under the large unit system, more schools have been added to existing fair centres, making the fairs larger and better. With the establishment of more of the large units we are looking forward to a general improvement in all of the fairs.

GREY WOODED SOIL WORK

In the country west of here the work with the management and maintenance of fertility of the grey wooded soils has been continued and slightly extended, so that it now fully occupies the time of one staff member throughout the summer. Sixteen farmers in widely separated areas are co-operating. The value of clovers, fertilizers and crop rotations are being studied. Some remarkable results are being secured, and the work is being watched with interest by large numbers of farmers.

Two field days were held on farms where some of the results could be demonstrated. At both places there was a good attendance from the neighbourhoods.

In co-operation with the Department of Field Crops of the University of Alberta, several varieties of barley, soft and hard wheats and flax were grown to get data on yield and quality. In co-operation with the Rust Research Laboratory, 25 varieties of early wheats were grown in rod rows.

HORTICULTURE

Distinct progress is being made in the growing of fruits. There was less winter killing than usual and no damage to the blossoms in the spring, so that we had more varieties of apples, crabs, plums and cherries fruiting than ever before. Through the courtesy of the Experimental Station at Morden, Manitoba, and the Provincial Horticultural Station at Brooks, we were able to add a number of new promising varieties for trial. A few varieties were also purchased from nurseries. To accommodate the new plantings the acreage in orchard has been extended. The orchard is becoming of ever increasing interest to farm visitors who wish to plant suitable varieties of tree fruits on their farmsteads.

BEEES

We started the season with one over-wintered colony and two two-pound packages. The production for the season was 580 pounds of extracted honey and 65 sections. Daily weights were taken with one colony.

During the season, demonstrations and talks were given to visitors and those attending the short courses. Some assistance was also given to a number of beekeepers in the Sundre-Bearberry district.

FIELD HUSBANDRY

With cereal crops we carried on variety tests with a number of the standard varieties, adding a few that have been introduced in recent years. Several rust resistant sorts have been of particular interest, even although rust resistance is not an important character here.

In co-operation with the Dominion Cerealists we carried on a test of about 25 early varieties of wheat. Some of these may be suitable to replace less suitable sorts now being grown in this part of Alberta.

Several hundred farmers' samples were grown in rod rows for analysis at harvest time. This work was in co-operation with the crop testing plan. We further co-operated in this work by making the field analysis at several other points in the Province where such tests were carried on.

Among the grasses and clovers that we are growing, creeping red fescue and Siberian red clover continue to attract attention. Our strain of the fescue has been recognized by the Canadian Seed Growers' Association as eligible for registration. We expect next year to have our stock passed by agrostologists appointed by the association. Several farmers in this part of the Province are growing the seed on a commercial scale and finding a ready market for it at remunerative prices. Most of it is going to the United States at present, where it is replacing seed from Europe.

Siberian red clover continues to show extreme hardiness. We are using it in the grey wooded soil work west of here, and it is making a good showing. Good yields of seed are secured on the grey soils, so the acreage should increase rapidly.

O.S.A. EXPERIMENTAL UNION

This organization has been operating for about 20 years. Originally the membership was confined to students and ex-students, but now more than half the membership does not have this connection. In its early years the Union sent out many varieties of grain for trial, and was the means of introducing desirable sorts into many districts. Limited numbers of samples of grain are still sent where a new variety appears to have characteristics which fit it for particular conditions. However, where a new variety is to be introduced it is usually advisable to get several bushels of seed rather than start with a few pounds.

In recent years many samples of grass seeds have been distributed, as a person can start with even a half-pound sample and soon have a considerable acreage by growing this seed in rows.

But the greatest demand has been for seeds, plants, shrubs and trees that can be used for improving the farmstead. We have available each year home grown vegetable and flower seeds, perennial flower roots and seedling shrubs in considerable numbers. The Brooks Station has supplemented our stock considerably the past two years, and thus has enabled us to distribute more attractive collections.

THE SCHOOL FARM (W. Ross, *Farm Manager*)

CROPS

We had good growing conditions last spring with lots of moisture in the ground. Our crops got away to a good start. Later on we had quite a dry spell, but the crops kept their colour well. The timothy crop seemed to suffer most, but turned out to be of very good quality. We had a mixture of timothy, sweet clover, red clover, and alfalfa. This mixture was seeded with the oats in the spring of 1937 on summer-fallow land. This 25-acre field produced a good crop of oats in 1937, and our 1938 crop of hay off this field was exceptionally good. We also had a good field of hay consisting of brome, rye grass with a little timothy, and another field with alfalfa. We just cut one crop of alfalfa off this field. Then later we used the field for pasture. In all, we put up about 120 tons of hay. The weather was fairly good, and with our new side-delivery rake we got all the hay up in good condition. We had the misfortune to have three hail-storms, all of which did damage to our

grain crops. We had some fields hailed 50%. As we need most of our acreage for hay, oats and barley, we just grew 12 acres of wheat.

This wheat was of a new variety that has been grown on the plots. It is of a good early variety, and although this field was hard hit with hail, it yielded about 28 bushels to the acre. If this seed is registered this year, our supply will be sold for seed.

We threshed 4,750 bushels of oats, 1,400 bushels of barley, 350 bushels of wheat, and 110 bushels of flax. We also put up 100 tons of ensilage and 20 tons of green feed. In all, we considered the crop very good considering the amount of hail we had.

The home farm here is worked on a crop rotation system. It is divided into 25-acre fields, this giving us a chance to have fresh hay and pasture for our stock. The other half-section, which lies two miles south, comes in handy for additional pasture, one quarter being still under natural grass. The other quarter is under cultivation and produces very good crops of grain.

LIVE STOCK

Cattle.

The Shorthorn cattle have done well this year. The calves by the bull Princeton Quaker, now at the Vermilion farm, are coming along very nicely with a few outstanding animals.

The Rothes 4th bull that was bought from Mr. Gallinger, of Tofield, has turned out very well. We have two calves by this bull that look very promising. If the rest that comes along are as good, we may look forward to a real fine herd.

At the Lacombe Bull Sale last June we sold a good young bull by the University old bull, Missie's Golden Key. This young bull was champion of the show. We have another good young bull by the same sire, which can be sold in the spring, also a yearling half-brother of Rothes 4th. This bull appears to have lots of outcome to him.

Ayrshires.

Our Ayrshire herd has been increased considerably in the last year. Some of our later additions were a cow and three heifers from Mr. Hanson, of Didsbury, which show promising results. The last to come in were three heifers and a yearling bull from the Royal Winter Fair, Toronto. The bull won his class in Toronto. We had the misfortune to lose one of the heifers with pneumonia. This heifer freshened shortly before leaving Toronto, and was milking real well.

The rest of them are coming along well. They are all from top-notch stock, and in time to come they should be a real credit to the Ayrshire breed in Alberta. We have three good young Ayrshire bulls for sale at the present time.

Fifteen head of steers are being fed mostly for class work for the students. They also use the pure-bred Shorthorns and Ayrshires for class work. All our cattle here have passed T.B. tests, and the herd is fully accredited.

Sheep.

We keep a small flock of Hampshire sheep. This works in for class work and gives us a few good rams and ewes to sell each year.

Hogs.

We are increasing our Yorkshires this coming year. We have a good young boar that was bought in Toronto, also an outstanding gilt and three more gilts that were raised in Alberta.

With our own young sows, this should grow into a choice lot of Yorkshires. We sold a few very nice young boars and gilts to the farmers around the surrounding country in the last year.

Horses.

We have had very good luck with the Percheron horses in the last year, raising seven outstanding colts. Two rising three-year-old stallions were sold last spring, one to the Barrhead district and the other to Wellington. Four of our colts are by these young stallions, and they show lots of promise.

We were lucky enough to have the good breeding stallion, Chief Laet, stand here for service last year. Apparently 11 of our mares are in foal to him. We also pastured a number of mares from different parts of the Province at a dollar per head a week. This was considered a good service to Percheron breeders who sent their mares to Chief Laet. I hope the Department can make satisfactory arrangements to have this horse here again this year.

There will be another rising three-year-old for sale this coming spring.

FARM WORK

The new machinery bought here last year helped greatly with the work on the farm. The tractor was a real time-saver, especially while working on the south farm. We are using it this winter for cutting and grinding feed, doing away with the high cost of Calgary power.

I wish to thank everybody in connection with the farm for their co-operation during the past year, as without that it would not be such a success. I would like also to especially thank the Principal of the school, Mr. James Murray, who has co-operated with me in every way possible in the management of the farm.

VERMILION SCHOOL OF AGRICULTURE

(S. H. GANDIER, *Principal*)

REGULAR FALL AND WINTER COURSES

Closing exercises for the 1937-38 term were held on April 5th, and marked the close of another successful school year with 164 boys and girls in attendance. Unfortunately, the school was under quarantine for a week prior to the closing because of one case of sickness of a contagious nature within the student body, and for that reason parents and the public could not be admitted to the graduation exercises. The guest speaker for the occasion was Mr. D. E. Cameron, Librarian, University of Alberta, whose address was most inspiring to the graduating class. Diplomas in Agriculture were awarded to 37 boys, and in Home Economics to 22 girls.

It was anticipated that the favourable crop season would stimulate a larger attendance for the regular term opening, October 21st, 1938, but poor crops in the Peace River district and low prices for

grain made it impossible for quite a number to enter the school this year. Following is the enrolment for the term now in progress:

Agricultural Courses:	
First Year Boys	47
Second Year Boys	33
Two-in-One Boys	8
Home Economics Course:	
First Year Girls	38
Second Year Girls	12
Two-in-One Girls	11
Total Registration	149

N.B.—Two-in-One Classes are students who are privileged to take the work of the two-year course in one school year, because of advanced academic standing.)

Youth Training Classes.

The above figures include 12 boys and 7 girls sent to the school under the Dominion-Provincial Youth Training Plan. These students are from farm homes, the majority coming from the central dry districts of the Province. Five of these boys took the first year at this school in the 1937-38 term, and were selected on a scholarship basis for a second term. The remainder are registered in the regular first year courses.

It may be of interest to mention the areas from which students now in attendance are drawn. The main body naturally comes from those districts not too far distant from the school, centres most prominent being Tofield, Mayerthorpe, Westlock, Edmonton, Vegreville, Lloydminster, Ryley, Chauvin and Provost. Ten students came from the Peace River district, the number from that area being greatly reduced this year because of poor crops. There are six students from the Province of Saskatchewan and three from the Peace River Block of B.C.

Scholarships.

Only the winners of the more important prizes are listed hereunder. In addition a large number of prizes of lesser importance were awarded at the closing exercises in April:

The Women's Institute Scholarship of \$50.00 for highest standing in the practical subjects of the first year in Home Economics: Won by Agnes Eyben, Auburndale, Alberta.

The Vermilion Board of Trade Scholarship of \$25.00 for highest standing in the practical subjects of first year in Agriculture: Won by George Brinton, Vegreville.

Scholarships from Wheat Board Surplus Trust Funds—Two \$75.00 Scholarships for general proficiency in first year work toward expenses of the second year:

Home Economics—Marjorie Mailer, Cadogan.

Agriculture—James Brickman, Mannville.

Five Scholarships of \$100.00 each to second year and two-in-one students in Agriculture toward expenses of the first year at the College of Agriculture, University of Alberta:—Awarded to: William Dixon, Maughan, Alberta; Orlen Bratvold, Dina, Alberta; Donald Bennett, Bruce, Alberta; Earl McGillivray, Hayter, Alberta; Gordon Bentley, Edmonton, Alberta.

The school is grateful to the T. Eaton Co., the Robert Simpson Co., the Singer Sewing Machine Co., the McCall Publishing Co., the Sommerville Co., Edmonton, and a number of local stores and business men, who contributed prizes toward many branches of our work.

Some Observations re Courses.

The original course in Agriculture emphasized studies and practical work in live stock and field crops, with sufficient of the agri-

cultural sciences to develop an understanding of the principles underlying good farm practice. Changes and additions to the course have developed with changed conditions and popular demand. For a number of years there has been a distinct tendency toward the practical and away from the intensely scientific. Only a very few graduates go forward to the University, and the school's main objective is to give such training as will be of real practical value to boys returning to the farm where they will spend their lives. Of late the various branches of mechanics have claimed more and more attention. A course in harness repair was recently added at this school, and is exceedingly popular. More attention should be given to farm machinery, gas engines, tractors and repair of same, but such classes are handicapped by lack of floor space and equipment. Carpentry and blacksmithing have always been prominent, and possibly a portion of the time devoted to these subjects might be more profitably applied to other branches of mechanics. The need for more practical instruction in horticulture becomes more evident every year. Steps were taken this season toward improving the horticultural areas at the school, not only for instructional purposes with our classes, but also for the information of the general public. A greenhouse is needed to assist with horticultural classes through the winter. There is also a demand for practical instruction in the selection and cleaning of grain for seed, but we have no modern seed cleaners nor is there room in the present building for their installation. A recent addition to both boys' and girls' courses is the subject of social studies, with particular attention to general matters of culture and development of personality.

Sickness Amongst the Students.

The winter term was unusually free from illnesses of a contagious nature until a couple of weeks prior to the spring closing, when one case of scarlet fever developed. There were two cases of pneumonia toward the end of the term, and though one case was very serious indeed, a successful recovery was made, though this student was obliged to remain at the Vermilion Municipal Hospital until early in May.

In the Fall term three cases of scarlet fever developed at intervals, and the school residence was placed under close quarantine for periods of seven days on each separate occasion. Staff members and students living out of residence moved in for the quarantine periods and classes continued without interruption. There was a great deal of inconvenience and overcrowding in residence, and though the work went forward as usual the quarantines were upsetting to studies and the general morale of the school.

It might be pointed out that present limited hospital arrangements at the school are quite inadequate when serious illnesses or contagious epidemics arise. Proper isolation will not be possible until a separate hospital building might be provided. This was referred to in the report of the Olds School for 1937, and the same conditions of hospitalization obtain at Vermilion as at Olds.

CHANGES IN STAFF

A full list of staff members appeared in last year's report, and only the changes which have recently occurred are now recorded. In April A. M. Wilson resumed his position as instructor in Agronomy after an absence of six months on post-graduate work in the States. The position of instructor in Mechanics became

vacant in August when W. S. Scarth was appointed to the office of district representative at Grande Prairie. Mr. Scarth has given many years of faithful and efficient service in the Schools of Agriculture, and his removal from the staff is keenly regretted. After some considerable difficulty in locating a man to fill the vacancy, H. W. Kitching, a recent graduate from the Ontario Agricultural College, was appointed. He commenced his duties shortly after the commencement of the fall term, and is proving to be a capable instructor. The services of Miss Jean Goodall as a temporary appointee to the staff for the school term were not again available in the fall, and Miss Eva M. Lee, a graduate of the University of Alberta, was appointed as assistant instructress in Home Economics, and is discharging her duties in a capable manner. One new temporary appointment to the staff was made in November in order to relieve the pressure in the English and Mathematics department, to provide adequate Library supervision, and to assist the Dean in the boys' wing of the residence. L. Blades, an ex-student of the school and a teacher of several years' experience in the Indian Residential School, North Edmonton, was secured for this work. His appointment fills a need that has been very evident for some time, and the improvement already apparent in the departments of work above-mentioned fully justifies this addition to the staff.

It is a pleasure to report that the staff as a whole has given loyal and efficient service at all times, and has co-operated closely in all of the various activities of the school.

SHORT COURSES

The usual short courses were held during the month of July.

Farm Women's Week, July 4th to 9th.

This is primarily a rest and holiday week for farm mothers, providing a welcome change from the grind of home duties. Attendance was considerably below the average of previous classes, quite a number being obliged to cancel their applications, as they could not reach the school because of excessive rain and bad roads. Forty-two ladies were registered, and at the conclusion of the course expressed their sincere appreciation of the instruction and accommodation provided. Besides the school staff, the following special speakers contributed to the programme: Miss M. Patrick, Professor of Household Economics, University of Alberta; Mr. C. W. Traves, Provincial Poultry Commissioner; Mr. John Blue, Secretary, Edmonton Chamber of Commerce; Dr. J. S. Shoemaker, Professor of Horticulture at the University.

School Fair Short Course, July 18th to 23rd.

This course was attended by those boys and girls obtaining highest points at the school fairs in 1937, one boy and one girl being selected from each school fair centre. A total of 70 were in attendance. The girls were instructed in sewing, cooking, household administration, first aid, personal hygiene, poultry and gardening. The boys had classes in field crops, grain judging, stock judging, carpentry, insects, weeds, gardening and personal hygiene. Other features were the track meet, theatre party, and concert provided by the students under staff direction.

Vermilion Exhibition Boys' and Girls' Camp, July 27th to 30th.

This camp is held during the Vermilion Exhibition, and is supported financially by the Federal Department of Agriculture and the Vermilion Exhibition Association. The Provincial Department of Agriculture co-operates by providing a programme of instruction at the School of Agriculture, and the camp members have boarding accommodation at the school dormitory. Total attendance was 157, there being 84 boys and 73 girls, from a territory west to Innisfree, north to the Saskatchewan river, east to Kitscoty, and south to Irma and Chauvin. The students attended the fair at certain periods, and a regular programme of instruction was given at the school, the boys having classes in live stock, field crops, horticulture, beekeeping and poultry, while the girls were instructed in sewing, cooking, household hints, and home nursing. On the last evening a banquet was sponsored by the Alberta Wheat Pool with Mr. Geo. Bennett, a director of the Pool, as special speaker for the occasion.

FIELD DAYS AND OTHER GATHERINGS

The school is becoming more popular each season as a centre for gatherings of various kinds. Private parties of families and groups of farmers call in frequently and spend some time looking over the grounds, plots and farms. Organized groups, such as junior clubs, stock associations and women's institutes, request the use of the grounds and buildings for meetings, field days and picnics. Some of the larger meeting of the past season were:

- June 28th—Field Day of Northern Alberta Clydesdale Association.
- July 4th—District Convention of Women's Institutes.
- July 4th—Forage Crops Field Day.
- July 8th—Horticulture Field Day.
- July 14th—Beekeeping Field Day.
- July 19th—Field Day and Picnic of Grain Clubs, Vegreville District.
- July 22nd—Field Day of Grain Clubs, Vermilion District.
- Aug. 10th—Deaf and Dumb Association Picnic.
- Aug. 22nd—Social Credit Constituency Picnic.

THE ALUMNI ASSOCIATION

Paid-up membership in the association for the past two or three years has been very encouraging. Two general meetings were held, the two-day summer re-union in July and a Fall meeting and dance in November. Both were reasonably well attended, and it is a source of much encouragement to the staff to note the continued interest of large numbers of ex-students, and to have their very willing help in bringing the services of the school to the attention of their friends and neighbours, and especially to the young people throughout the country. Much of the recent success of the association is due to the efforts of the continuing secretary, W. G. Malaher, who has given much time to promotion of the association's interests. President for the current year is Lawrence Blades, Class '36, a recent appointee to the school staff.

At the summer re-union, July 14th and 15th, the association was very fortunate in having as guest speaker Dr. H. L. Stewart, of Dalhousie University, Halifax, widely known Canadian commentator on world affairs. We are indebted to the Extension Branch of the University, who made it possible for Dr. Stewart to come to Vermilion following the School of Community Life at Olds.

The Experimental Union.

All paid-up members of the Alumni Association automatically become members of the Experimental Union. Surplus horticult-

tural stock from the gardens and school grounds and seed from the school plots are distributed to members. The union acknowledges with thanks quantities of fruit trees, shrubbery and roots provided by the Provincial Horticultural Station at Brooks as premiums to the members.

The Alumni Paper.

The official organ of the Alumni Association is "The Radio," issued periodically throughout the year to keep the ex-students informed of school activities and of other matters to their general interest.

EXTENSION WORK

After closing of the school in April, the permanent staff are engaged in a variety of extension work in addition to regular duties that they may have at the school. Mr. Andrew is district agriculturist in addition to his duties as farm manager. During the past season the school farm claimed more of his time than usual, and much of the district work devolved upon Mr. Wilson, our field husbandry instructor, and upon Mr. Bentley, instructor in science. Grain clubs at Hazeldean, Islay, Mannville and Vegreville were supervised. Experiments with forage crops on alkali lands were conducted at a number of places. The fertilizer tests on grey wooded soils at points in the area from Edmonton east to the boundary were continued. Cultures for legume crops were made in the school laboratory and distributed throughout the Province. These are discussed in detail in a separate section of this report. The school also supervised the school fairs of the northern half of the Province. A full report of these is also given in another section. Many letters have gone forward to farmers in reply to miscellaneous inquiries.

SCHOOL FAIRS

The year 1938 saw a further increase in the number of school fairs held throughout Northern Alberta, new fairs having operated at Bellis, Busby and Myrnam, whilst former centres were revived at Barrhead, Smoky Lake, Vilna and Waskatenau. The Westlock School Fair was discontinued, so that the net increase in fairs over 1937 was six, the total being 43 as against 37. Seeds were distributed to about 9,500 children in 422 participating rooms. Exhibits at all fairs totalled 34,774, or an average of 808 exhibits per centre. These figures represent an increase of approximately 10%. All fairs were held as scheduled.

Generally speaking, the fairs compared favourably with those of previous years and quality of exhibits was good in most classes. At about one-third of the centres, however, entries in the live stock section continue to be light, whilst animals selected in many instances show lack of quality and training. Efforts of district agriculturists to popularize this part of the programme by making a feature of the live stock judging have met with success at a number of points, where there has been improvement both in the number and quality of exhibits in recent years. There is still very definite room for improvement, however, and at the present time this section of the prize list is undoubtedly the weakest.

For the most part attendance at the fairs was satisfactory, though at several points the attendance of adults, so necessary for a successful fair, was rather disappointing. This was due in part, no doubt, to difficulty in leaving the farm at a busy time of the

year. It is felt, however, that in addition to the judging of the live stock, in which the adults take a keen interest, some definite feature of interest might well be provided for the adults whilst judging in the hall is being carried on. School fair day presents an excellent opportunity to draw the older people and to educate them in matters of interest with respect to the farm and home. Possibly some move in this direction can be made in 1939.

Early in the year a new edition of the school fair handbook was published, which included a number of changes made in the Department of Education section of the prize list. This literature was distributed on the basis of two copies to each five children taking seeds, a certain number being held in reserve for 1939. Reports indicate that the supply was scarcely adequate, but with few new fairs in prospect, it is thought that sufficient will be on hand for the 1939 season.

It is likely that the number of fairs held next year will be approximately the same, though one or two of the weaker centres may have to discontinue unless given better support. Full details with respect to the fairs under the supervision of this school will be found in the complete annual report on school fairs.

LEGUME CULTURES

The production of pure cultures for the inoculation of the seed of legume crops was resumed in the spring of 1935, and each season the demand is increasing. This year about 3,500 cultures were sent out, being distributed to all parts of the Province. By arrangement with the Field Crops Branch, the cultures are available at a special rate for municipalities taking advantage of the Dominion-Provincial Forage Crop Policy. A single culture is sufficient to treat one bushel of seed, and is available to farmers at a cost of 35c postpaid. About 80% of the production is used for alfalfa and sweet clover. Cultures are provided also for the ordinary clovers, field peas, sweet peas, beans and vetch. They are prepared through the months of March to June, inclusive, by the instructor in bacteriology.

EXPERIMENTAL PLOTS AND AGRONOMY

The policy of this department in the production of forage and cereal crops has been to demonstrate the various varieties along with cultural practices which appear best adapted to the district, and at the same time to add fundamental information towards solving some of the problems of the farmers of central and northern Alberta. A few of the problems which have received attention are briefly outlined.

Re-seeding Native Pastures.—Native pastures in recent years have necessitously been over-grazed, with the result that low areas, at one time most productive, have become practically useless by infestations of wild barley. Several farmers have co-operated in areas adjacent to the school by way of preparing trial plots upon which selected forage strains, particularly those considered to have alkali resistance, have been tried. These same strains and varieties are also grown under observation at the school, where they also serve as useful demonstration material.

Seed Setting in Red Fescue.—Creeping red fescue, although a productive pasture grass, has proven variable with regard to seed production in this district. It is felt that a more seed productive strain might be obtained by a programme of selection or breeding accompanied by careful testing. With this in mind, progenies from

heavy yielding parents have been set out as individual plants. It is anticipated that a continued programme of selection will be continued this year.

Alfalfa Trials.—In co-operation with Dr. Fryer, of the University of Alberta, certain alfalfa strains have been studied with the view of selecting forage types suitable for this district which will at the same time yield an increasing amount of seed.

Cereal Crops.—In cereal investigation work 24 early wheat selections were grown in co-operation with the Central Experimental Farm, Ottawa. Since the separate grading of Garnet wheat, farmers faced with a maturity problem in their crops are looking towards the development and release of a variety equal to Garnet in yield and maturity, but possessing higher quality. It is hoped that in the not too distant future a more desirable variety will be released.

Varietal Reaction to Fertilizers.—Considerable attention has been focussed in the past few years on the quality of wheat grown in the northern half of the black soil belt, the transitional soil belt, and in the grey soil area. In co-operation with Dr. Neatby and Dr. McAlla, both of the University of Alberta, and farmers of the above mentioned areas, investigational work on the varietal response of wheat varieties to fertilizers, with respect to yield, protein content, milling quality and baking tests, is under way. The programme involves the application of green manures and commercial fertilizers in various combinations on summer-fallow seeded to four wheat varieties. It is anticipated that these district plots will serve as valuable demonstration and educational centres of the district, as well as contribute largely to the fundamental knowledge regarding the differential effect of fertilizers on various varieties. Results of these trials will not be completed until the Fall of 1939.

Smut Resistant Oats.—A few promising smut resistant oat selections introduced from the U.S.D.A. plant breeding station at Aberdeen, Idaho, are being studied with the view of obtaining a desirable variety resistant to smut. It is impossible to predict at this time the future of these selections.

Crop Testing.—The division also co-operated with the Crop Testing Plan by way of growing and testing a large number of farmers' wheat samples for trueness to variety.

Farmers' field days and organized meetings on the school grounds were well attended, with interest during the past season centering on forage crops and horticultural projects.

HORTICULTURE

It was felt that experimental varieties of horticultural crops should be tested in a location separate from approved varieties since a combined orchard of all varieties invariably left the observer with the opinion that on the whole desirable plantings could not be maintained. With this in mind, separate plantings of approved and experimental varieties have been undertaken.

The Horticultural Station at Brooks has generously supplied us with a large number of crabapple, apple and small fruit selections, which we anticipate will yield in time reliable varieties for our district.

The co-operation from Mr. Hargrave, of Brooks, and Dr. J. S. Shoemaker, of the University of Alberta, has been greatly appre-

ciated. We believe that present enthusiasm among farmers and townspeople of this part of the Province warrants the school devoting even greater attention to this work.

THE CROP SEASON OF 1938

Conditions in this immediate area were quite favourable throughout the growing and ripening seasons. Though rainfall was not exceedingly heavy, it came at opportune times, and fair hay and grain crops were harvested. Considerable damage was done to early sown crops by cutworms and some fields were resown. Because of favourable maturing conditions and absence of early frosts, many of these crops ripened reasonably well with fair yields. Outbreaks of grasshoppers occurred at a number of points north of the Battle River, but were confined to comparatively small areas, and damage was slight. The season was especially favourable for root and garden crops and for potatoes. The school grounds and flower beds were very attractive from spring to fall, and the lawns retained their greenness throughout the season. Following are approximate average crop yields for the immediate district: Wheat, 17 bus.; oats, 35 bus.; barley, 25 bus.; alfalfa and brome, 1½ tons to the acre; potatoes, 200 bus. per acre.

Following are precipitation figures for the year by months:

January	5.50	inches	July	3.016	inches
February	3.50	"	August	4.669	"
March	5.00	"	September	1.50	"
April	1.30	"	October	.708	"
May	3.336	"	November	.55	"
June	1.68	"	December	.5	"

Total precipitation for the year was therefore 17.489 inches, slightly higher than the average of 17.2 inches for the past 36 years.

BUILDINGS, REPAIRS, ETC.

During the recent years of economic depression and since erection of the dormitory in 1928, not a great deal of building of a permanent nature has been done on the school campus. Exceptions are the enlarging of the mechanics building in 1935 and renovation of the cow-barn two years later. For a number of years funds were not available for ordinary repairs, and as a consequence some of the buildings now require considerable renovation, both inside and out. Some work was done during the past summer on the interiors of the dwelling houses, a vacuum pump system was installed in the dormitory, water was piped to the mechanics building, painting and kalsomining in the residence and some painting at the old school building, both interior and exterior. The dormitory has been kept in good condition since its erection, but other buildings, exteriors especially, have not been painted for many years and present a dilapidated appearance. Apparently it is the intention of the Public Works Department to stucco all of the buildings, hence recent neglect with respect to painting. It is hoped that funds may soon be available to place all buildings in good repair.

Some of the more pressing needs are: Renovation of both exteriors and interiors of school buildings excepting dormitory; attention to exteriors of dwellings; enlargement of root-houses; laying cement walks to replace old wooden ones; storage and work-room space for carrying on experimental plot work; more adequate accommodation for the various branches of instruction in mechanics; a small greenhouse is very necessary for horticultural work, especially during the term and in the spring; proper garage space for

several cars is needed; the apiary has developed to the point where a small building is necessary for handling of honey and storage of bee supplies; considerable work should be done on barns and other farm buildings, with possibly some replanning of the farmstead.

THE SCHOOL FARM

(D. A. ANDREW, *Farm Manager*)

The area of the land operated was approximately 1,200 acres, made up as follows: 320 acres leased from Rev. Stanley Scott; 315 acres raw land leased from Prairie Land Co., and purchased by the Department early in the season; 560 acres originally owned by the Department. Almost one-half of the total acreage is raw land.

In operating the farm two main objects have been given prominence: first, the production of feed for the live stock; second, a study of forage plants and systems best suited to their economic production.

During the season two areas were laid down to definite rotations. In the one case an area of 54 acres was divided into six plots of nine acres each, the rotation to be as follows:

1st Year—Summer-fallow.

2nd Year—Seeding in June with a mixture of alfalfa, sweet clover, Alta-swede, brome and crested wheat grass, using $\frac{1}{2}$ bus. of oats as a nurse crop, using the oats for either silage or green feed.

3rd Year—Hay crop.

4th Year—Hay crop, plowing directly the hay has been removed, and treating as fallow for the remainder of the season.

5th Year—Grain.

6th Year—Grain.

At present another 9-acre plot is being cleared, ready for breaking. Should it be deemed wise, this area can be changed to a 7-year rotation without losing the continuity of the cropping on the present plots.

In the other case an area of 40 acres has been divided into four plots of 10 acres each. The rotation is as follows:

1st Year—Grain, tilled after harvest, manured with green manure, and plowed before freezing.

2nd Year—6 acres at one end is devoted to sunflowers, sown about May 10th, and kept free from weeds, and used for silage. Four acres at the other end of the plot sown to rape broadcast about June 15th, and used as sheep pasture. All 10 acres plowed late in the fall.

3rd Year—Sown in June to sweet clover; 15 lbs. seed per acre; $\frac{1}{2}$ bus. oats for nurse crop. The oats are used either for silage or green feed.

4th Year—Sweet clover harvested as hay, then fallowed for the rest of the season in preparation for grain crop the following year.

The object of the above rotation is threefold:

1st—To eradicate weeds.

2nd—To compare the effect of sunflowers for silage, and rape for pasture on the subsequent crops in the rotation.

3rd—To learn if a stock farmer in this area can operate to produce stock feed without resorting to summer-fallow.

The six-acre area of one-acre plots laid down four years ago made a good showing in all but one plot. It was the area broken from sod July, 1937, and seeded to wheat early in 1938. Fertilizer was added to this. Apparently the rank growth early caused too great a drain on the available moisture, with the result that this was

the poorest crop on the farm. We were unable to notice any difference in yield on the areas broken from brome and crested wheat grass respectively.

In our sod breaking work on this area we have found crested wheat easy to kill and brome not very difficult, but alfalfa gave us considerably more trouble to eradicate than either of the others. On these plots the sod is broken immediately after the removal of the hay in the second cropping season of the meadow.

Crested wheat sod requires more power to plow than does brome, and also gives better protection against blowing.

Rejuvenating Brome Meadows.

We are frequently asked as to the best methods of rejuvenating brome meadows, so last spring we did some work along this line which may be described as follows:

During May we plowed an area in a brome meadow seeded in 1932. This was plowed shallow $2\frac{1}{2}$ to 3 inches, turned flat and packed. Present indications are that this will be a splendid meadow for 1939.

On another area of this old brome field we took a stiff tooth cultivator, removed all the feet but four, or every third foot. On these we put newly sharpened 7-inch blades and ran it over at a depth of from four to five inches. We found the draft greater than four horses could handle, but the hay crop was much better in this area than on the area left as check. Approximately one-third of the perpendicular root system was shorn off. The cultivator feet had to be run deep, otherwise the sod rolled up in such a way as to be a nuisance at haying time.

I may say that we have had no trouble with brome becoming sod-bound where it is in combination with alfalfa, which bears out the theory that brome throws out root stalks in search of nitrogen. We are considering the application of nitrogen fertilizers as a method of prolonging the life of pure brome stands.

Rejuvenating Alfalfa Meadows.

Three one-acre plots of a six-year-old alfalfa meadow were measured off.

Plot 1 was plowed, packed and disced early in the spring. Then it was allowed to develop for the season. The result was an almost 100% kill of the alfalfa. This is in direct contrast to our results from a similar treatment in the spring of 1933, when we were successful in getting a splendid stand from a field of thin alfalfa plowed early. The main difference in the handling was that the 1933 field was plowed deep, the 1938 field shallow.

Plot 2 was double disced.

Plot 3 was double cultivated with a spring tooth cultivator with narrow feet. The spring tooth cultivator loosened the ground and pulled more grass than the disc. The growth of alfalfa on both plots was stimulated considerably. Our observations would lead us to the conclusion that cultivating of alfalfa meadows is more profitably done in July or August than in the early spring.

Breaking Meadows.

Just before freeze-up in 1937 we plowed 16 acres of alfalfa seeded in 1931. This lay in the furrow slice over winter. At the same time two acres were double worked with the one-way disc. Last spring

the entire area was worked down and sown to oats. The crop was a better stand on the plowed area, and the alfalfa kill was more efficient on the plowed area also. It is to be noted that the cost of preparing the land was much greater on the plowed area. We will require to follow the subsequent crops before we can say definitely as to our preference of the method of breaking.

In July, 1937, 10 acres of old rye grass sod was plowed, and fallowed the remainder of the season. This produced a heavy crop of oats in 1938.

In late July we plowed 16 acres of six-year-old alfalfa and used the one-way disc on two acres. The whole area was double disced twice and gone over once with the one-way disc before freeze-up. This area will be sown to oats the coming spring.

Another area of 25 acres of old Kentucky blue grass sod was plowed at intervals ranging from July to late September. The early plowing was double disced twice, the late plowing once. This area will be sown to oats this coming season and the influence of the date of plowing noted.

Hay Meadows.

Approximately 100 acres of tame meadows were cut last year, yielding about 170 tons. Our heaviest yields were from alfalfa and brome. There does not appear to be as great a tendency to become sod-bound where the combination is brome and alfalfa as where the mixture contains either crested wheat or Kentucky blue in combination with alfalfa.

Alsike grows naturally in most areas.

Altaswede, while present in the meadows, does not appear to be a marked factor in the yield.

Tame Grass Pastures.

Kentucky blue appears to stand the close pasturing of horses very well. The creeping fescue seeded in 1932 is standing up well as cattle pasture, is highly palatable, and where mixed with brome is replacing the brome under pasture conditions.

On the 15-acre pasture lot seeded in 1935, the five acres seeded to alfalfa, brome and crested wheat appear to produce the greatest tonnage, but is not as palatable to the stock as either of the plots where Kentucky blue or creeping fescue replaces the crested wheat. The pasture production on this area has been highly satisfactory, and I would advise that tests be made this coming season with commercial fertilizers.

On an 18-acre brome pasture seeded in 1930, Kentucky blue grass seed was blown in from an adjoining field, and this grass is now rapidly replacing the brome.

GRAIN CROPS

Approximately 8,000 bushels of oats were threshed from 190 acres, with an average yield of 42 bushels per acre; 580 bushels of barley were threshed from 18 acres, average yield 32 bushels per acre. Only one acre of wheat was grown, as referred to earlier, yield 10 bushels; 42 acres of oats were sown for green feed and gave a yield of approximately 75 tons, or two tons per acre of dry feed and 15 tons used for silage. Six acres of sunflowers gave a yield of approximately 5 tons per acre, the lightest crop for several years.

LIVE STOCK

Horses.

At present we have 33 head of horses. During the year five horses were sold and two geldings died of encephalomyelitis. One mare recovered. None of the vaccinated horses contracted the disease.

Early last year the farm purchased a half interest in the Clydesdale stallion, Craigie Winsome Lad. Present indications are that we have five mares with foal to the above horse and one to Sovereign Footprint.

No Clyde foals were raised last year. Two mares were with foal, but one foaled prematurely and the other gave birth to twins.

We have one very fine cross-bred filly foal, the result of using a Thoroughbred stallion on a Clyde mare. This promises to be an exceptionally good filly.

Our 3-year-old Clyde mare was shown at the Royal Fair and was successful in winning second place in the 3-year-old class and second place in the class for Canadian bred mares over 3 years old.

Cattle.

Shorthorns.—At present there are 19 head. The Shorthorn herd was reduced by eight head in July as the result of the abortion test, and again in December by 13 head as the result of the T.B. test. During the year four breeding bulls were sold and no purchases made, and five bulls and four heifer calves were born.

Angus.—Last summer and fall we received from the Angus breeders of the Province 14 females as a nucleus of a herd. The Department also purchased the Angus bull, Bandoliers New Deal 2nd, bred by Henry Schmucker & Sons, of Blairstown, Iowa. This bull is four years old and a very low-set, smooth individual. Two bull calves were fitted and sent out on the Provincial Bull Policy. At present we have eight calves equally divided for sex.

Hogs.

Only one breed of hogs is kept here, namely, Yorkshire. During the year a boar and a gilt, bred by Marler of Bremner, were purchased, also one gilt bred by Smeltzer of South Edmonton and two gilts bred by Taylor of Blackfoot. All these animals are advanced registry breeding. During the year the following were sold for breeding: 20 boars, 32 gilts.

Forty-five sows were bred for farmers during the year. It is apparent that our herd of swine is making considerable contribution toward the improving of hogs in this district. I believe serious consideration might be given to enlarging this department, but before this can be done more housing will be required.

Sheep.

Suffolks only are bred at the farm. No purchases were made during the year. Twenty-four lambs were raised. One ram was sold. We held back the sale of rams in an endeavour to put shearlings only on the market each year. Four ewe lambs were sold as breeders, and four were selected to go into our breeding flock. Twenty-two ewes were bred for March weaning.

Poultry.

No attempt was made toward the production of hatching eggs or baby chicks. One hundred Rhode Island Red hens are carried as a commercial flock and to supply birds for judging work in the classroom.

APIARY

During the season the apiary reached 20 colonies. Seven of these were packages and 13 over wintered colonies; 15 colonies were packed for winter. Our chief purpose is the collection of nectar secretion data and wintering experiments.

Two pound packages made almost equal production with three pound packages.

In all, 2,570 pounds of honey were produced and sold. The 15 colonies prepared for winter are on natural stores only.

MISCELLANEOUS

The planting of trees and hedges has made a good showing, and we now have a very attractive sight for interested spectators.

Remodelling of the cattle barns would greatly increase the efficiency of the help taking care of the stock; also if the barns were modernized they would serve as models for both students and visitors. The farm holdings would also be greatly improved if a modern piggery were constructed.

The introduction of a power unit would reduce the cost of crop production as well as make it easier to do work at the proper time. A power unit would also make it possible to break a considerable quantity of our raw land, thereby greatly increasing its production.

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